GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: December 12, 2003, 16:32:31 ; Search time 35.4398 Seconds
(without alignments)
497.144 Million cell updates/sec

Title: US-09-852-261-4
Perfect score: 599
Sequence: 1 GPETLCGAELVDALQFVCGP.....THKKRKLQRRRKGSTLEEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1107863 seqs, 158726573 residues

Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,

and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	599	100.0	111	22	AAE02448	Rat IGF-I isoform
2	599	100.0	111	23	AAU10560	Rat mechano-growth
3	537	89.6	133	24	ABP58085	Mouse insulin-like
4	512	85.5	111	22	AAE02449	Rabbit IGF-I isofo
5	512	85.5	111	23	AAU10561	Rabbit mechano-gro
6	512	85.5	121	18	AAW23301	Rabbit insulin lik
7	494.5	82.6	110	22	AAE02447	Human IGF-I isofor
8	494.5	82.6	110	23	AAU10559	Human mechano-grow
9	471	78.6	105	22	AAE02451	Rat liver-type IGF
10	471	78.6	105	22	AAE02531	Rat liver-type IGF
11	471	78.6	105	23	AAU10563	Rat insulin-like g
12	464	77.5	195	8	AAP70277	Sequence of pre-pr
13	423	70.6	105	22	AAE02450	Human liver-type I
14	423	70.6	105	23	AAU10562	Human insulin-like
15	423	70.6	137	22	AAU09067	Human insulin-like
16	423	70.6	153	16	AAR83803	Insulin-like growt
17	423	70.6	153	19	AAW69733	Human IGF-1. Homo
18	423	70.6	153	19	AAW57882	Human IGF-I protei
19	423	70.6	153	23	AAU84284	Human endometrial
20	423	70.6	153	23	AAU84341	Protein IGF1 diffe
21	423	70.6	154	14	AAR40844	Goat Insulin like
22	423	70.6	156	18	AAW23302	Human insulin like
23	420	70.1	105	22	AAE02452	Rabbit liver-type
24	420	70.1	105	23	AAU10564	Rabbit insulin-lik
25	416	69.4	119	7	AAP60578	Human prepro-somat
26	414	69.1	105	22	AAE02456	Rabbit liver-type
27	412.5	68.9	191	19	AAW64068	Chimeric rhIGF-I-A
28	412.5	68.9	191	23	AAE24881	Yeast alpha factor
29	367	61.3	78	21	AAY98482	Pep 17 used in nuc
30	367	61.3	78	21	AAY59027	Peptide ligand Pep
31	367	61.3	78	22	AAU04272	Nuclear ligand Pep
32	367	61.3	78	22	AAB45835	Nucleic acid trans
33	359	59.9	176	17	AAR88089	Rainbow trout insu
34	354	59.1	186	16	AAR72472	Flatfish insulin-l
35	351.5	58.7	185	21	ABB06295	Paralichthys oliva
36	344	57.4	71	9	AAP81212	Insulin-like growt
37	342	57.1	953	19	AAW56011	Recombinant botuli
38	341	56.9	70	5	AAP40034	Sequence of human
39	341	56.9	70	8	AAP70414	Sequence of oxidat
40	341	56.9	70	8	AAP71539	Sequence of human
41	341	56.9	70	10	AAP91502	New insulin-like g
42	341	56.9	70	14	AAR36846	Insulin-like growt
43	341	56.9	70	14	AAR41774	hIGF-I. Homo sapi
44	341	56.9	70	14	AAR43606	Peptide derived fr
45	341	56.9	70	15	AAR48590	Human IGF-I peptid

ALIGNMENTS

RESULT 1
AAE02448
ID AAE02448 standard; Protein; 111 AA.
XX
AC AAE02448;
XX
DT 10-AUG-2001 (first entry)
XX
DE Rat IGF-I isoform mechano-growth factor (MGF) protein.
XX
KW Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease.
XX
OS Rattus sp.
XX
PN WO200136483-A1.
XX
PD 25-MAY-2001.
XX
PF 15-NOV-2000; 2000WO-GB04354.
XX
PR 15-NOV-1999; 99GB-0026968.
XX
PA (UNLO) UNIV COLLEGE LONDON.
XX
PI Goldspink G, Johnson I;
XX
DR WPI; 2001-355620/37.
DR N-PSDB; AAD06399.
XX
PT Use of mechano-growth factor, an isoform of Insulin-like Growth
PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
PT medicament for the treatment of neurological disorder -
XX
PS Claim 4; Page 52; 66pp; English.
XX
CC The present invention relates to use of mechano-growth factor (MGF),
CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurones and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurones, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is rat IGF-I isoform MGF. MGF is a muscle

CC isoform having extracellular (Ec) domain, hence also referred as
CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
CC of MGF.
XX
SQ Sequence 111 AA;

Query Match 100.0%; Score 599; DB 22; Length 111;
Best Local Similarity 100.0%; Pred. No. 2e-51;
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
              |||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
```

RESULT 2
AAU10560
ID AAU10560 standard; Protein; 111 AA.
XX
AC AAU10560;
XX
DT 25-FEB-2002 (first entry)
XX
DE Rat mechano-growth factor (MGF) polypeptide.
XX
KW Rat; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;
KW neuroprotective; nerve damage; peripheral nervous system; nerve severing;
KW muscle; neurological disorder; motoneuron loss; motorneuron disorder;
KW nerve avulsion.
XX
OS Rattus sp.
XX
PN WO200185781-A2.
XX
PD 15-NOV-2001.
XX
PF 10-MAY-2001; 2001WO-GB02054.
XX
PR 10-MAY-2000; 2000GB-0011278.
XX
PA (UNLO) UNIV COLLEGE LONDON.
PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.
XX
PI Goldspink G, Terenghi G;
XX
DR WPI; 2002-055585/07.
DR N-PSDB; AAS16878.
XX
PT Use of insulin-like growth factor I (IGF-I) isoform known as
PT mechano-growth factor which is encoded by IGF-I exons 4,5,6 and has
PT ability to reduce motoneuron loss in response to nerve avulsion, to
PT treat nerve damage -

XX
PS Claim 11; Fig 6; 65pp; English.
XX
CC The invention relates to the use of an insulin-like growth factor I
CC (IGF-I) isoform, known as mechano-growth factor (MGF), in the manufacture
CC of a medicament for treating nerve damage in the peripheral nervous
CC system, or for treating nerve damage by localising MGF at the site of
CC damage. The nerve damage may include severing of a nerve. The treatment
CC may be combined with another treatment (such as a polypeptide growth
CC factor other than MGF) that prevents or diminishes degeneration of the
CC target organ (for example, muscle) which the damaged nerve innervates,
CC whereby the treatment of the muscle with MGF or a polynucleotide encoding
CC MGF prevents or diminishes degeneration. The method is useful for
CC treating neurological disorders, preferably motorneuron disorders. These
CC methods can reduce motoneuron loss by 20% or greater in response to nerve
CC avulsion. This sequence represents the rat MGF polypeptide.
XX
SQ Sequence 111 AA;

Query Match 100.0%; Score 599; DB 23; Length 111;
Best Local Similarity 100.0%; Pred. No. 2e-51;
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
              |||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
```

RESULT 3
ABP58085
ID ABP58085 standard; Protein; 133 AA.
XX
AC ABP58085;
XX
DT 07-MAR-2003 (first entry)
XX
DE Mouse insulin-like growth factor IB.
XX
KW Insulin-like growth factor IB; IGF-IB; mouse; mRNA; assay;
KW nucleic acid detection.
XX
OS Mus musculus.
XX
PN WO200297390-A2.
XX
PD 05-DEC-2002.
XX
PF 31-MAY-2002; 2002WO-SE01056.
XX
PR 01-JUN-2001; 2001SE-0001934.
XX
PA (BIOV-) BIOVITRUM AB.
XX

PI Parrow V, Rosengren L;
XX
DR WPI; 2003-129529/12.
DR N-PSDB; ABV76185.
XX
PT Quantitating a target nucleic acid in a sample comprises immobilizing,
PT on a solid support, a sample comprising a target nucleic acid, and
PT detecting and quantitating signals generated from the antisense and
PT sense probes -
XX
PS Example 1; Page 17; 18pp; English.
XX
CC The present sequence is the protein sequence of murine insulin-like
CC growth factor 1B (IGF-IB). IGF-IB cDNA was used in an example of
CC the method of the invention to generate probes for determination of
CC IGF-IB RNA. The method comprises a quantitative hybridisation
CC assay for analysis of mRNA in a target nucleic acid (TNA) sample.
CC It involves: (i) immobilising the TNA sample on a solid support;
CC (ii) contacting a labelled antisense probe to a first portion of the
CC TNA, and a labelled sense probe to a second portion of the TNA;
CC (iii) detecting and quantitating the signals generated from the
CC hybridised probes; and (iv) determining the value represented by
CC the antisense probe signal minus the sense probe signal, the value
CC being proportional to the amount of mRNA in the TNA sample. In an
CC example of the method, a cDNA clone containing 60 nucleotides from
CC exon 2 and 179 nucleotides from exon 3 of the mouse IGF-IB gene was
CC cloned into pGEN-4Z vector. Linearisation of the plasmid with
CC EcoRI allowed transcription of a 250-nucleotide antisense probe
CC using T7 polymerase. Linearisation with HindIII allowed
CC transcription of a sense probe of similar length using SP6
CC polymerase (see ABV76186). The probes were purified and used to
CC determine IGF-I RNA in mouse hepatocytes and also in rat hepatocytes.
XX
SQ Sequence 133 AA;

  Query Match   89.6%; Score 537; DB 24; Length 133;
  Best Local Similarity 91.0%; Pred. No. 3e-45;
  Matches 101; Conservative   2; Mismatches   8; Indels   0; Gaps   0;

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Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Db         23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
              |   ||||:||||||||||||||||  |||:|| |||||||||| ||||
Db         83 CAPLKPTKAARSIRAQRHTDMPKTQKSPSLSTNKKTKLQRRRKGSTFEEHK 133
```

RESULT 4
AAE02449
ID AAE02449 standard; Protein; 111 AA.
XX
AC AAE02449;
XX
DT 10-AUG-2001 (first entry)
XX
DE Rabbit IGF-I isoform mechano-growth factor (MGF) protein.

XX
KW Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease.
XX
OS Oryctolagus cuniculus.
XX
PN WO200136483-A1.
XX
PD 25-MAY-2001.
XX
PF 15-NOV-2000; 2000WO-GB04354.
XX
PR 15-NOV-1999; 99GB-0026968.
XX
PA (UNLO) UNIV COLLEGE LONDON.
XX
PI Goldspink G, Johnson I;
XX
DR WPI; 2001-355620/37.
DR N-PSDB; AAD06400.
XX
PT Use of mechano-growth factor, an isoform of Insulin-like Growth
PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
PT medicament for the treatment of neurological disorder -
XX
PS Claim 4; Page 54; 66pp; English.
XX
CC The present invention relates to use of mechano-growth factor (MGF),
CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurones and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurones, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is rabbit IGF-I isoform MGF. MGF is a muscle
CC isoform having extracellular (Ec) domain, hence also referred as
CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
CC of MGF.
XX
SQ Sequence 111 AA;

Query Match 85.5%; Score 512; DB 22; Length 111;
Best Local Similarity 86.5%; Pred. No. 7.3e-43;

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  Matches   96;  Conservative    3;  Mismatches   12;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
              |  || |:|||:|||||||||||||| || ||:|| | |||||||| ||||
Db         61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111


RESULT 5
AAU10561
ID   AAU10561 standard; Protein; 111 AA.
XX
AC   AAU10561;
XX
DT   25-FEB-2002  (first entry)
XX
DE   Rabbit mechano-growth factor (MGF) polypeptide.
XX
KW   Rabbit; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;
KW   neuroprotective; nerve damage; peripheral nervous system; nerve severing;
KW   muscle; neurological disorder; motoneuron loss; motorneuron disorder;
KW   nerve avulsion.
XX
OS   Oryctolagus cuniculus.
XX
PN   WO200185781-A2.
XX
PD   15-NOV-2001.
XX
PF   10-MAY-2001; 2001WO-GB02054.
XX
PR   10-MAY-2000; 2000GB-0011278.
XX
PA   (UNLO ) UNIV COLLEGE LONDON.
PA   (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.
XX
PI   Goldspink G,  Terenghi G;
XX
DR   WPI; 2002-055585/07.
DR   N-PSDB; AAS16879.
XX
PT   Use of insulin-like growth factor I (IGF-I) isoform known as
PT   mechano-growth factor which is encoded by IGF-I exons 4,5,6 and has
PT   ability to reduce motoneuron loss in response to nerve avulsion, to
PT   treat nerve damage  -
XX
PS   Claim 11; Fig 7; 65pp; English.
XX
CC   The invention relates to the use of an insulin-like growth factor I
CC   (IGF-I) isoform, known as mechano-growth factor (MGF), in the manufacture
CC   of a medicament for treating nerve damage in the peripheral nervous
CC   system, or for treating nerve damage by localising MGF at the site of
CC   damage. The nerve damage may include severing of a nerve. The treatment
CC   may be combined with another treatment (such as a polypeptide growth
```

CC factor other than MGF) that prevents or diminishes degeneration of the
CC target organ (for example, muscle) which the damaged nerve innervates,
CC whereby the treatment of the muscle with MGF or a polynucleotide encoding
CC MGF prevents or diminishes degeneration. The method is useful for
CC treating neurological disorders, preferably motorneuron disorders. These
CC methods can reduce motoneuron loss by 20% or greater in response to nerve
CC avulsion. This sequence represents the rabbit MGF polypeptide.
XX
SQ Sequence 111 AA;

Query Match 85.5%; Score 512; DB 23; Length 111;
Best Local Similarity 86.5%; Pred. No. 7.3e-43;
Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

```
Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| |||||||| |||| ||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
                |   || |:|||:|||||||||||||| || ||:|| | |||||||| ||||
Db         61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111
```

RESULT 6
AAW23301
ID AAW23301 standard; Protein; 121 AA.
XX
AC AAW23301;
XX
DT 14-APR-1998 (first entry)
XX
DE Rabbit insulin like growth factor 1.
XX
KW Insulin like growth factor 1; IGF-1; Ec peptide; muscle disorder;
KW heart; neuromuscular disease.
XX
OS Oryctolagus cuniculus.
XX
PN WO9733997-A1.
XX
PD 18-SEP-1997.
XX
PF 11-MAR-1997; 97WO-GB00658.
XX
PR 11-MAR-1996; 96GB-0005124.
XX
PA (UNLO) ROYAL FREE HOSPITAL SCHOOL MED.
XX
PI Goldspink G;
XX
DR WPI; 1997-470877/43.
DR N-PSDB; AAT84893.
XX
PT Use of insulin like growth factor I characterised by presence of Ec
PT peptide - to treat humans or animals, particularly muscle disorders,
PT heart conditions or neuromuscular diseases
XX

PS Disclosure; Fig 3; 33pp; English.
XX
CC A use of insulin like growth factor I (IGF-1) has been developed, and
CC is characterised by the presence of the Ec peptide, or a functional
CC equivalent, in the treatment or therapy of a human or animal. The IGF-1
CC polypeptide can be used to treat muscular disorders, e.g. Duchenne or
CC Becker muscular dystrophy, autosomal dystrophies and related progressive
CC skeletal muscle weakness and wasting, muscle atrophy in ageing humans,
CC spinal cord injury induced muscle atrophy and neuromuscular diseases,
CC and cardiac disorders, e.g. diseases where promotion of cardiac muscle
CC protein synthesis is a beneficial treatment, cardiomyopathies and acute
CC heart failure or insult, specifically myocarditis or myocardial
CC infarction. It can also be used to promote bone fracture healing and
CC maintenance of bone in old age. The present sequence represents rabbit
CC IGF-1 used in the present specification.
XX
SQ Sequence 121 AA;

Query Match 85.5%; Score 512; DB 18; Length 121;
Best Local Similarity 86.5%; Pred. No. 7.9e-43;
Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

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Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||
Db         11 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 70

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
              |   || |:|||:|||||||||||||| || ||:|| | |||||||| ||||
Db         71 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 121
```

RESULT 7
AAE02447
ID AAE02447 standard; Protein; 110 AA.
XX
AC AAE02447;
XX
DT 10-AUG-2001 (first entry)
XX
DE Human IGF-I isoform mechano-growth factor (MGF) protein.
XX
KW Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease.
XX
OS Homo sapiens.
XX
PN WO200136483-A1.
XX
PD 25-MAY-2001.
XX
PF 15-NOV-2000; 2000WO-GB04354.
XX

PR 15-NOV-1999; 99GB-0026968.
XX
PA (UNLO) UNIV COLLEGE LONDON.
XX
PI Goldspink G, Johnson I;
XX
DR WPI; 2001-355620/37.
DR N-PSDB; AAD06398.
XX
PT Use of mechano-growth factor, an isoform of Insulin-like Growth
PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
PT medicament for the treatment of neurological disorder -
XX
PS Claim 4; Page 50-51; 66pp; English.
XX
CC The present invention relates to use of mechano-growth factor (MGF),
CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurones and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurones, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is human IGF-I isoform MGF. MGF is a muscle
CC isoform having extracellular (Ec) domain, hence also referred as
CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
CC of MGF.
XX
SQ Sequence 110 AA;

  Query Match 82.6%; Score 494.5; DB 22; Length 110;
  Best Local Similarity 85.6%; Pred. No. 3.8e-41;
  Matches 95; Conservative 2; Mismatches 13; Indels 1; Gaps 1;

```
Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
              |   || ||||:||||||||||||| || ||:|  | | |||||| ||||
Db         61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQ-RRKGSTFEEHK 110
```

RESULT 8
AAU10559
ID AAU10559 standard; Protein; 110 AA.
XX
AC AAU10559;
XX

DT 25-FEB-2002 (first entry)
XX
DE Human mechano-growth factor (MGF) polypeptide.
XX
KW Human; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;
KW neuroprotective; nerve damage; peripheral nervous system; nerve severing;
KW muscle; neurological disorder; motoneuron loss; motorneuron disorder;
KW nerve avulsion.
XX
OS Homo sapiens.
XX
PN WO200185781-A2.
XX
PD 15-NOV-2001.
XX
PF 10-MAY-2001; 2001WO-GB02054.
XX
PR 10-MAY-2000; 2000GB-0011278.
XX
PA (UNLO) UNIV COLLEGE LONDON.
PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.
XX
PI Goldspink G, Terenghi G;
XX
DR WPI; 2002-055585/07.
DR N-PSDB; AAS16877.
XX
PT Use of insulin-like growth factor I (IGF-I) isoform known as
PT mechano-growth factor which is encoded by IGF-I exons 4,5,6 and has
PT ability to reduce motoneuron loss in response to nerve avulsion, to
PT treat nerve damage -
XX
PS Claim 11; Fig 5; 65pp; English.
XX
CC The invention relates to the use of an insulin-like growth factor I
CC (IGF-I) isoform, known as mechano-growth factor (MGF), in the manufacture
CC of a medicament for treating nerve damage in the peripheral nervous
CC system, or for treating nerve damage by localising MGF at the site of
CC damage. The nerve damage may include severing of a nerve. The treatment
CC may be combined with another treatment (such as a polypeptide growth
CC factor other than MGF) that prevents or diminishes degeneration of the
CC target organ (for example, muscle) which the damaged nerve innervates,
CC whereby the treatment of the muscle with MGF or a polynucleotide encoding
CC MGF prevents or diminishes degeneration. The method is useful for
CC treating neurological disorders, preferably motorneuron disorders. These
CC methods can reduce motoneuron loss by 20% or greater in response to nerve
CC avulsion. This sequence represents the human MGF polypeptide.
XX
SQ Sequence 110 AA;

Query Match 82.6%; Score 494.5; DB 23; Length 110;
Best Local Similarity 85.6%; Pred. No. 3.8e-41;
Matches 95; Conservative 2; Mismatches 13; Indels 1; Gaps 1;

```
Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| |||||||| |||| |||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
```

```
Qy          61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
               |   || |||||:||||||||||||| || ||:|  | | |||||| ||||
Db          61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQ-RRKGSTFEEHK 110
```

RESULT 9
AAE02451
ID AAE02451 standard; Protein; 105 AA.
XX
AC AAE02451;
XX
DT 10-AUG-2001 (first entry)
XX
DE Rat liver-type IGF-I isoform (L.IGF-I) protein.
XX
KW Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease; liver; L.IGF-I.
XX
OS Rattus sp.
XX
PN WO200136483-A1.
XX
PD 25-MAY-2001.
XX
PF 15-NOV-2000; 2000WO-GB04354.
XX
PR 15-NOV-1999; 99GB-0026968.
XX
PA (UNLO) UNIV COLLEGE LONDON.
XX
PI Goldspink G, Johnson I;
XX
DR WPI; 2001-355620/37.
DR N-PSDB; AAD06404.
XX
PT Use of mechano-growth factor, an isoform of Insulin-like Growth
PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
PT medicament for the treatment of neurological disorder -
XX
PS Disclosure; Page 58-59; 66pp; English.
XX
CC The present invention relates to use of mechano-growth factor (MGF),
CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurones and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,

CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurones, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is rat liver-type IGF-I isoform (L.IGF-I).
CC The L.IGF-I protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4 and 6.
CC Note: The present sequence (SEQ ID NO: 12) is stated as being the
CC same as that shown in figure 9 (AAE02531) of the specification. However
CC it differs at a single position.
XX
SQ Sequence 105 AA;

Query Match 78.6%; Score 471; DB 22; Length 105;
Best Local Similarity 100.0%; Pred. No. 7.4e-39;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              ||||||||||||||||||||||||||
Db         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
```

RESULT 10
AAE02531
ID AAE02531 standard; Protein; 105 AA.
XX
AC AAE02531;
XX
DT 10-AUG-2001 (first entry)
XX
DE Rat liver-type IGF-I isoform (L.IGF-I) protein, alternative version.
XX
KW Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease; liver; L.IGF-I.
XX
OS Rattus sp.
XX
FH Key Location/Qualifiers
FT Misc-difference 102
FT /note= "Encoded by ACC"
XX
PN WO200136483-A1.
XX
PD 25-MAY-2001.
XX
PF 15-NOV-2000; 2000WO-GB04354.
XX

PR 15-NOV-1999; 99GB-0026968.
XX
PA (UNLO) UNIV COLLEGE LONDON.
XX
PI Goldspink G, Johnson I;
XX
DR WPI; 2001-355620/37.
DR N-PSDB; AAD06404.
XX
PT Use of mechano-growth factor, an isoform of Insulin-like Growth
PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
PT medicament for the treatment of neurological disorder -
XX
PS Disclosure; Fig 9; 66pp; English.
XX
CC The present invention relates to use of mechano-growth factor (MGF),
CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurones and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurones, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is alternative version of rat liver-type IGF-I
CC isoform (L.IGF-I). The L.IGF-I protein comprises amino acid sequences
CC encoded by nucleic acid sequence of IGF-I exons 4 and 6.
CC Note: The present sequence is stated as being the same as SEQ ID NO: 12
CC shown in sequence listing (AAE02451) of the specification. However
CC it differs at a single position.
XX
SQ Sequence 105 AA;

```
  Query Match             78.6%;  Score 471;  DB 22;  Length 105;
  Best Local Similarity   100.0%;  Pred. No. 7.4e-39;
  Matches   86;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              ||||||||||||||||||||||||||
Db         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
```

RESULT 11
AAU10563
ID AAU10563 standard; Protein; 105 AA.
XX
AC AAU10563;

XX
DT 25-FEB-2002 (first entry)
XX
DE Rat insulin-like growth factor I liver-type isoform (L.IGF-I).
XX
KW Rat; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;
KW neuroprotective; nerve damage; peripheral nervous system; nerve severing;
KW muscle; neurological disorder; motoneuron loss; motorneuron disorder;
KW nerve avulsion; insulin-like growth factor I liver-type isoform; L.IGF-I;
XX
OS Rattus sp.
XX
PN WO200185781-A2.
XX
PD 15-NOV-2001.
XX
PF 10-MAY-2001; 2001WO-GB02054.
XX
PR 10-MAY-2000; 2000GB-0011278.
XX
PA (UNLO) UNIV COLLEGE LONDON.
PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.
XX
PI Goldspink G, Terenghi G;
XX
DR WPI; 2002-055585/07.
DR N-PSDB; AAS16883.
XX
PT Use of insulin-like growth factor I (IGF-I) isoform known as
PT mechano-growth factor which is encoded by IGF-I exons 4,5,6 and has
PT ability to reduce motoneuron loss in response to nerve avulsion, to
PT treat nerve damage -
XX
PS Disclosure; Fig 9; 65pp; English.
XX
CC The invention relates to the use of an insulin-like growth factor I
CC (IGF-I) isoform, known as mechano-growth factor (MGF), in the manufacture
CC of a medicament for treating nerve damage in the peripheral nervous
CC system, or for treating nerve damage by localising MGF at the site of
CC damage. The nerve damage may include severing of a nerve. The treatment
CC may be combined with another treatment (such as a polypeptide growth
CC factor other than MGF) that prevents or diminishes degeneration of the
CC target organ (for example, muscle) which the damaged nerve innervates,
CC whereby the treatment of the muscle with MGF or a polynucleotide encoding
CC MGF prevents or diminishes degeneration. The method is useful for
CC treating neurological disorders, preferably motorneuron disorders. These
CC methods can reduce motoneuron loss by 20% or greater in response to nerve
CC avulsion. This sequence represents the rat insulin-like growth factor I
CC liver-type isoform (L.IGF-I) used in experiments on motoneuron loss.
XX
SQ Sequence 105 AA;

Query Match 78.6%; Score 471; DB 23; Length 105;
Best Local Similarity 100.0%; Pred. No. 7.4e-39;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

```
                  ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
                  ||||||||||||||||||||||||||
Db         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
```

RESULT 12
AAP70277
ID AAP70277 standard; protein; 195 AA.
XX
AC AAP70277;
XX
DT 25-MAR-2003 (updated)
DT 05-APR-1991 (first entry)
XX
DE Sequence of pre-pro-insulin-like growth factor 1B (ppIGF-1B).
XX
KW Growth promoter; lactation enhancer; cell proliferation.
XX
OS Homo sapiens.
XX
PN EP229750-A.
XX
PD 22-JUL-1987.
XX
PF 06-JAN-1987; 87EP-0870001.
XX
PR 20-NOV-1986; 86US-0929671.
PR 07-JAN-1986; 86US-0816662.
XX
PA (UNIW) UNIV WASHINGTON.
XX
PI Krivi GG, Rotwein PS;
XX
DR WPI; 1987-200203/29.
XX
PT New pre-pro-insulin-like growth factor-1 protein - obtd. by
PT recombinant DNA procedures for use as growth promoters for
PT enhancing lactation, for stimulating cell proliferation etc.
XX
PS Claim 11; Fig 6; 59pp; English.
XX
CC A 42 base oligonucleotide corresponding to the DNA sequence encoding
CC amino acids 10 to 23 of mature human IGF-I was synthesized (AAN70437).
CC The radiolabeled 42 mer was then employed to screen for IGF-I
CC containing DNA sequences in a human liver cDNA library. Insulin-
CC like growth factors-1A and -1B cDNAs were isolated from a human cDNA
CC library by using lambdagt 11 (AAN70435, AAN70436). The human IGF-1
CC genomic gene was isolated and mapped. It encodes at least two
CC preproinsulin-like growth factor-1 proteins. An essentially pure
CC proproinsulin-like growth factor-1 protein comprising the sequence
CC of amino acids shown in Figure six is claimed (AAP70277).
CC (Updated on 25-MAR-2003 to correct PA field.)
XX
SQ Sequence 195 AA;

```
  Query Match             77.5%;  Score 464;  DB 8;  Length 195;
  Best Local Similarity   85.3%;  Pred. No. 6.7e-38;
  Matches   87;  Conservative    3;  Mismatches   12;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRR 102
              |   || |||||:||||||||||||| || ||:|  | |||:
Db        109 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRRK 150


RESULT 13
AAE02450
ID   AAE02450 standard; Protein; 105 AA.
XX
AC   AAE02450;
XX
DT   10-AUG-2001  (first entry)
XX
DE   Human liver-type IGF-I isoform (L.IGF-I) protein.
XX
KW   Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW   mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW   amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW   poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW   nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW   sex-linked muscular dystrophy; peripheral neuropathy;
KW   Alzheimer's disease; Parkinson's disease; liver; L.IGF-I.
XX
OS   Homo sapiens.
XX
PN   WO200136483-A1.
XX
PD   25-MAY-2001.
XX
PF   15-NOV-2000; 2000WO-GB04354.
XX
PR   15-NOV-1999;   99GB-0026968.
XX
PA   (UNLO ) UNIV COLLEGE LONDON.
XX
PI   Goldspink G,  Johnson I;
XX
DR   WPI; 2001-355620/37.
DR   N-PSDB; AAD06403.
XX
PT   Use of mechano-growth factor, an isoform of Insulin-like Growth
PT   Factor-I, capable of reducing motoneurone loss, in the manufacture of a
PT   medicament for the treatment of neurological disorder -
XX
PS   Disclosure; Fig 8; 66pp; English.
XX
CC   The present invention relates to use of mechano-growth factor (MGF),
CC   an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
```

CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurones and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurones, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is human liver-type IGF-I isoform (L.IGF-I).
CC The L.IGF-I protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4 and 6.
XX
SQ Sequence 105 AA;

Query Match 70.6%; Score 423; DB 22; Length 105;
Best Local Similarity 90.7%; Pred. No. 3.9e-34;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

```
Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| |||||||| |||| ||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:||||||||||||||
Db         61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
```

RESULT 14
AAU10562
ID AAU10562 standard; Protein; 105 AA.
XX
AC AAU10562;
XX
DT 25-FEB-2002 (first entry)
XX
DE Human insulin-like growth factor I liver-type isoform (L.IGF-I).
XX
KW Human; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;
KW neuroprotective; nerve damage; peripheral nervous system; nerve severing;
KW muscle; neurological disorder; motoneuron loss; motorneuron disorder;
KW nerve avulsion; insulin-like growth factor I liver-type isoform; L.IGF-I;
XX
OS Homo sapiens.
XX
PN WO200185781-A2.
XX
PD 15-NOV-2001.
XX
PF 10-MAY-2001; 2001WO-GB02054.
XX
PR 10-MAY-2000; 2000GB-0011278.
XX

PA (UNLO) UNIV COLLEGE LONDON.
PA (EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.
XX
PI Goldspink G, Terenghi G;
XX
DR WPI; 2002-055585/07.
DR N-PSDB; AAS16882.
XX
PT Use of insulin-like growth factor I (IGF-I) isoform known as
PT mechano-growth factor which is encoded by IGF-I exons 4,5,6 and has
PT ability to reduce motoneuron loss in response to nerve avulsion, to
PT treat nerve damage -
XX
PS Disclosure; Fig 8; 65pp; English.
XX
CC The invention relates to the use of an insulin-like growth factor I
CC (IGF-I) isoform, known as mechano-growth factor (MGF), in the manufacture
CC of a medicament for treating nerve damage in the peripheral nervous
CC system, or for treating nerve damage by localising MGF at the site of
CC damage. The nerve damage may include severing of a nerve. The treatment
CC may be combined with another treatment (such as a polypeptide growth
CC factor other than MGF) that prevents or diminishes degeneration of the
CC target organ (for example, muscle) which the damaged nerve innervates,
CC whereby the treatment of the muscle with MGF or a polynucleotide encoding
CC MGF prevents or diminishes degeneration. The method is useful for
CC treating neurological disorders, preferably motorneuron disorders. These
CC methods can reduce motoneuron loss by 20% or greater in response to nerve
CC avulsion. This sequence represents the human insulin-like growth factor I
CC liver-type isoform (L.IGF-I) used in experiments on motoneuron loss.
XX
SQ Sequence 105 AA;

Query Match 70.6%; Score 423; DB 23; Length 105;
Best Local Similarity 90.7%; Pred. No. 3.9e-34;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

```
Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || ||||||:||||||||||||
Db         61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
```

RESULT 15
AAU09067
ID AAU09067 standard; Protein; 137 AA.
XX
AC AAU09067;
XX
DT 19-DEC-2001 (first entry)
XX
DE Human insulin-like growth factor, IGF1.
XX
KW Human; long-term memory protein; LTM; insulin-like growth factor;
KW neuroleptic; anticonvulsant; nootropic; neuroprotective; IGF1;

KW cerebroprotective; drug discovery; therapeutic profiling;
KW learning disability; memory impairment; brain injury; epilepsy;
KW mental retardation; senile dementia; Alzheimer's disease.
XX
OS Homo sapiens.
XX
PN WO200174298-A2.
XX
PD 11-OCT-2001.
XX
PF 02-APR-2001; 2001WO-US10661.
XX
PR 31-MAR-2000; 2000US-193614P.
XX
PA (UYBR-) UNIV BROWN RESEACH FOUND.
PA (HUGH-) HUGHES HOWARD MED INST.
XX
PI Alberini CM, Bear MF;
XX
DR WPI; 2001-626335/72.
DR N-PSDB; AAS14695.
XX
PT Regulating memory consolidation in an animal comprising treating with
PT an agent that modulates activity of one or more genes from zif268,
PT insulin-like growth factor, glutamate receptor 2, c/EBPbeta and VGF -
XX
PS Disclosure; Page 90-91; 100pp; English.
XX
CC The invention relates to modulating long term memory consolidation in an
CC animal comprises treating with an agent that modulates the activity of
CC one or more of genes from zif268, insulin-like growth factor (IGF),
CC glutamate receptor 1 (GluR1), glutamate receptor 2 (GluR2), c/EBPbeta
CC and neuroendocrine VGF (neurotropin-inducible gene). The method is useful
CC for identifying an agent which modulates memory consolidation. The method
CC is useful for conducting a drug and/or target discovery business, which
CC comprises conducting therapeutic profiling of the agents (or their
CC analogues) identified, for efficacy and toxicity in animals, and
CC formulating a pharmaceutical preparation including one or more agents
CC identified as having an acceptable therapeutic profile and/or licensing
CC to a third party the rights for further drug development of the
CC identified agents. The method of conducting drug discovery business
CC further comprises an additional step of establishing a distribution
CC system for distributing the preparation for sale and may optionally
CC include establishing a sales group for marketing the preparation. A
CC pharmaceutical composition containing the agent is useful for enhancing
CC memory consolidation in an animal, or for augmenting learning and memory,
CC or otherwise for enhancing the functional performance of central nervous
CC system neurons, where the agent is a cAMP elevating agent (agonist)
CC preferably a cAMP analogue or cAMP phosphodiesterase inhibitor, which
CC activates adenylate cyclase. The composition is useful for treating
CC diseases associated with learning disabilities, memory impairment e.g.
CC due to toxicant exposure, brain injury, epilepsy, mental retardation in
CC children and senile dementia, including Alzheimer's disease. The
CC present sequence represents human insulin-like growth factor, IGF1.
XX
SQ Sequence 137 AA;

Query Match 70.6%; Score 423; DB 22; Length 137;
Best Local Similarity 90.7%; Pred. No. 5e-34;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

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Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||
Db         33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:||||||||||||||
Db         93 CAPLKPAKSARSVRAQRHTDMPKTQK 118
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Search completed: December 12, 2003, 16:37:16
Job time : 36.4398 secs

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: December 12, 2003, 16:35:22 ; Search time 14.3765 Seconds
(without alignments)
326.679 Million cell updates/sec

Title: US-09-852-261-4
Perfect score: 599
Sequence: 1 GPETLCGAELVDALQFVCGP.....THKKRKLQRRRKGSTLEEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
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4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	512	85.5	121	3	US-09-142-583A-4	Sequence 4, Appli
2	423	70.6	137	1	US-07-953-230A-10	Sequence 10, Appl
3	423	70.6	152	3	US-08-950-720A-9	Sequence 9, Appli
4	423	70.6	153	1	US-08-219-878A-1	Sequence 1, Appli
5	423	70.6	153	5	PCT-US93-04329-1	Sequence 1, Appli
6	423	70.6	156	3	US-09-142-583A-11	Sequence 11, Appl
7	416	69.4	119	6	5405942-1	Patent No. 5405942
8	412.5	68.9	191	3	US-08-989-251-41	Sequence 41, Appl
9	412.5	68.9	191	3	US-09-340-250-41	Sequence 41, Appl
10	412.5	68.9	191	4	US-09-528-108-41	Sequence 41, Appl
11	367	61.3	78	2	US-08-460-890A-47	Sequence 47, Appl

12	367	61.3	78	3	US-08-167-641C-47	Sequence 47, Appl
13	367	61.3	78	3	US-08-460-971A-47	Sequence 47, Appl
14	367	61.3	78	3	US-08-462-040-47	Sequence 47, Appl
15	359	59.9	176	1	US-07-953-230A-9	Sequence 9, Appli
16	342	57.1	953	4	US-09-255-829-14	Sequence 14, Appl
17	341	56.9	70	1	US-07-947-035-1	Sequence 1, Appli
18	341	56.9	70	1	US-07-776-272-17	Sequence 17, Appl
19	341	56.9	70	1	US-07-958-903A-17	Sequence 17, Appl
20	341	56.9	70	1	US-08-462-018-17	Sequence 17, Appl
21	341	56.9	70	1	US-08-823-245-17	Sequence 17, Appl
22	341	56.9	70	1	US-08-482-271-1	Sequence 1, Appli
23	341	56.9	70	3	US-09-080-120A-1	Sequence 1, Appli
24	341	56.9	70	3	US-08-432-517-1	Sequence 1, Appli
25	341	56.9	70	4	US-07-963-329A-1	Sequence 1, Appli
26	341	56.9	70	4	US-09-477-924-1	Sequence 1, Appli
27	341	56.9	70	4	US-09-723-981-1	Sequence 1, Appli
28	341	56.9	70	4	US-09-723-896-1	Sequence 1, Appli
29	341	56.9	70	5	PCT-US92-09443A-1	Sequence 1, Appli
30	341	56.9	70	5	PCT-US93-11458-1	Sequence 1, Appli
31	341	56.9	70	5	PCT-US95-08925-1	Sequence 1, Appli
32	341	56.9	94	1	US-07-989-845-28	Sequence 28, Appl
33	341	56.9	94	1	US-07-989-844-12	Sequence 12, Appl
34	341	56.9	94	1	US-08-161-044-12	Sequence 12, Appl
35	341	56.9	94	1	US-08-240-121-12	Sequence 12, Appl
36	341	56.9	94	1	US-08-451-241-12	Sequence 12, Appl
37	341	56.9	94	5	PCT-US93-11297-12	Sequence 12, Appl
38	341	56.9	94	5	PCT-US93-11298-28	Sequence 28, Appl
39	341	56.9	118	3	US-09-029-267-14	Sequence 14, Appl
40	341	56.9	155	1	US-08-328-961-8	Sequence 8, Appli
41	341	56.9	155	1	US-08-462-397-8	Sequence 8, Appli
42	341	56.9	155	3	US-08-989-251-39	Sequence 39, Appl
43	341	56.9	155	3	US-09-340-250-39	Sequence 39, Appl
44	341	56.9	155	4	US-09-528-108-39	Sequence 39, Appl
45	338	56.4	70	1	US-08-180-572-5	Sequence 5, Appli

ALIGNMENTS

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RESULT 1
US-09-142-583A-4
; Sequence 4, Application US/09142583A
; Patent No. 6221842
;   GENERAL INFORMATION:
;        APPLICANT: GOLDSPINK, GEOFFREY
;        TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
;        NUMBER OF SEQUENCES: 11
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: NIXON & VANDERHYE P.C.
;             STREET: 1100 NORTH GLEBE ROAD
;             CITY: ARLINGTON
;             STATE: VA
;             COUNTRY: USA
;             ZIP: 22201
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
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;              OPERATING SYSTEM: PC-DOS/MS-DOS
;              SOFTWARE: PatentIn Release #1.0, Version #1.25
;         CURRENT APPLICATION DATA:
;              APPLICATION NUMBER: US/09/142,583A
;              FILING DATE: 29-Oct-1998
;              CLASSIFICATION: <Unknown>
;         PRIOR APPLICATION DATA:
;              APPLICATION NUMBER: WO PCT/GB97/00658
;              FILING DATE: 11-MAR-1997
;              APPLICATION NUMBER: GB 9605124.8
;              FILING DATE: 11-MAR-1996
;         ATTORNEY/AGENT INFORMATION:
;              NAME: SADOFF, B. J.
;              REGISTRATION NUMBER: 36663
;              REFERENCE/DOCKET NUMBER: 117-263
;         TELECOMMUNICATION INFORMATION:
;              TELEPHONE: 7038164000
;              TELEFAX: 7038164100
;    INFORMATION FOR SEQ ID NO: 4:
;         SEQUENCE CHARACTERISTICS:
;              LENGTH: 121 amino acids
;              TYPE: amino acid
;              TOPOLOGY: linear
;         MOLECULE TYPE: protein
;         SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-09-142-583A-4

  Query Match             85.5%;  Score 512;  DB 3;  Length 121;
  Best Local Similarity   86.5%;  Pred. No. 2e-51;
  Matches   96;  Conservative    3;  Mismatches   12;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||
Db         11 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 70

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
              |   || |:|||:||||||||||||| || ||:|| | |||||||| ||||
Db         71 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 121


RESULT 2
US-07-953-230A-10
; Sequence 10, Application US/07953230A
; Patent No. 5476779
;  GENERAL INFORMATION:
;    APPLICANT:  CHEN, Thomas T
;    APPLICANT:  SHAMBLOTT, Michael J
;    TITLE OF INVENTION:  INSULIN-LIKE GROWTH FACTORS ISOLATED
;    TITLE OF INVENTION:  FROM RAINBOW TROUT
;    NUMBER OF SEQUENCES:  12
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Burns, Doane, Swecker & Mathis
;      STREET:  George Mason Bldg., Washington & Prince Sts.
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  United States
;      ZIP:  22313-1404
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;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  Floppy disk
;       COMPUTER:  IBM PC compatible
;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.0, Version #1.25
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/07/953,230A
;       FILING DATE:  30-SEP-1992
;       CLASSIFICATION:  435
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Crane-Feury, Sharon E
;       REGISTRATION NUMBER:  36,113
;       REFERENCE/DOCKET NUMBER:  028755-010
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (703) 836-6620
;       TELEFAX:  (703) 836-2021
;   INFORMATION FOR SEQ ID NO:  10:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  137 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  protein
;     FEATURE:
;       NAME/KEY:  Peptide
;       LOCATION:  7
;       OTHER INFORMATION:  /note= "Gap of 2 after 7."
;     FEATURE:
;       NAME/KEY:  Peptide
;       LOCATION:  31
;       OTHER INFORMATION:  /note= "Gap of 1 after 31."
;     FEATURE:
;       NAME/KEY:  Peptide
;       LOCATION:  116
;       OTHER INFORMATION:  /note= "Gap of 27 after 116."
US-07-953-230A-10

  Query Match             70.6%;  Score 423;  DB 1;  Length 137;
  Best Local Similarity   90.7%;  Pred. No. 3.7e-41;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:||||||||||||
Db         93 CAPLKPAKSARSVRAQRHTDMPKTQK 118


RESULT 3
US-08-950-720A-9
; Sequence 9, Application US/08950720A
; Patent No. 6046028
;  GENERAL INFORMATION:
;    APPLICANT:  Conklin, Darrell C.
;    APPLICANT:  Lofton-Day, Catherine E.
```

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;     APPLICANT:  Lok, Si
;     APPLICANT:  Jaspers, Stephen R.
;     TITLE OF INVENTION:  INSULIN HOMOLOG
;     NUMBER OF SEQUENCES:  17
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  ZymoGenetics, Inc.
;       STREET:  1201 Eastlake Avenue East
;       CITY:  Seattle
;       STATE:  WA
;       COUNTRY:  USA
;       ZIP:  98102
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  Diskette
;       COMPUTER:  IBM Compatible
;       OPERATING SYSTEM:  DOS
;       SOFTWARE:  FastSEQ for Windows Version 2.0
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/950,720A
;       FILING DATE:
;       CLASSIFICATION:  435
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:
;       FILING DATE:
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Sawislak, Deborah A
;       REGISTRATION NUMBER:  37,438
;       REFERENCE/DOCKET NUMBER:  96-09
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  206-442-6672
;       TELEFAX:  206-442-6678
;       TELEX:
;   INFORMATION FOR SEQ ID NO:  9:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  152 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  No. 6046028e
US-08-950-720A-9

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  Best Local Similarity   90.7%;  Pred. No. 4.1e-41;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

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Db         23 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:|||||||||||||
Db         83 CAPLKPAKSARSVRAQRHTDMPKTQK 108


RESULT 4
US-08-219-878A-1
; Sequence 1, Application US/08219878A
; Patent No. 5473054
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;  GENERAL INFORMATION:
;    APPLICANT:  Bradford A. Jameson and Renato Baserga
;    TITLE OF INVENTION:  IGF-1 Analogs
;    NUMBER OF SEQUENCES:  5
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Woodcock Washburn
;      ADDRESSEE:  Kurtz Mackiewicz & No. 5473054ris
;      STREET:  One Liberty Place - 46th Floor
;      CITY:  Philadelphia
;      STATE:  PA
;      COUNTRY:  USA
;      ZIP:  19103
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  WORDPERFECT 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/219,878A
;      FILING DATE:  30-MAR-1994
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/881,524
;      FILING DATE:  08-MAY-1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mark DeLuca
;      REGISTRATION NUMBER:  33,229
;      REFERENCE/DOCKET NUMBER:  TJU-1240
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (215) 568-3100
;      TELEFAX:  (215) 568-3439
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  153
;      TYPE:  amino acid
;      TOPOLOGY:  linear
US-08-219-878A-1

  Query Match             70.6%;  Score 423;  DB 1;  Length 153;
  Best Local Similarity   90.7%;  Pred. No. 4.2e-41;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || ||||||:||||||||||||
Db        109 CAPLKPAKSARSVRAQRHTDMPKTQK 134


RESULT 5
PCT-US93-04329-1
; Sequence 1, Application PC/TUS9304329
;  GENERAL INFORMATION:
;    APPLICANT:  Bradford A. Jameson and Renato Baserga
;    TITLE OF INVENTION:  IGF-1 Analogs
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;     NUMBER OF SEQUENCES:  7
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  Woodcock Washburn
;       ADDRESSEE:  Kurtz Mackiewicz & Norris
;       STREET:  One Liberty Place - 46th Floor
;       CITY:  Philadelphia
;       STATE:  PA
;       COUNTRY:  USA
;       ZIP:  19103
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
;       COMPUTER:  IBM PS/2
;       OPERATING SYSTEM:  PC-DOS
;       SOFTWARE:  WORDPERFECT 5.0
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  PCT/US93/04329
;       FILING DATE:  19930507
;       CLASSIFICATION:
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  07/881,524
;       FILING DATE:  08-MAY-92,
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Mark DeLuca
;       REGISTRATION NUMBER:  33,229
;       REFERENCE/DOCKET NUMBER:  TJU-0649
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (215) 568-3100
;       TELEFAX:  (215) 568-3439
;   INFORMATION FOR SEQ ID NO:  1:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  153
;       TYPE:  AMINO ACID
;       TOPOLOGY:  linear
PCT-US93-04329-1

  Query Match             70.6%;  Score 423;  DB 5;  Length 153;
  Best Local Similarity   90.7%;  Pred. No. 4.2e-41;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
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Db        109 CAPLKPAKSARSVRAQRHTDMPKTQK 134


RESULT 6
US-09-142-583A-11
; Sequence 11, Application US/09142583A
; Patent No. 6221842
;   GENERAL INFORMATION:
;        APPLICANT: GOLDSPINK, GEOFFREY
;        TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
;        NUMBER OF SEQUENCES: 11
;        CORRESPONDENCE ADDRESS:
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;              ADDRESSEE: NIXON & VANDERHYE P.C.
;              STREET: 1100 NORTH GLEBE ROAD
;              CITY: ARLINGTON
;              STATE: VA
;              COUNTRY: USA
;              ZIP: 22201
;         COMPUTER READABLE FORM:
;              MEDIUM TYPE: Floppy disk
;              COMPUTER: IBM PC compatible
;              OPERATING SYSTEM: PC-DOS/MS-DOS
;              SOFTWARE: PatentIn Release #1.0, Version #1.25
;         CURRENT APPLICATION DATA:
;              APPLICATION NUMBER: US/09/142,583A
;              FILING DATE: 29-Oct-1998
;              CLASSIFICATION: <Unknown>
;         PRIOR APPLICATION DATA:
;              APPLICATION NUMBER: WO PCT/GB97/00658
;              FILING DATE: 11-MAR-1997
;              APPLICATION NUMBER: GB 9605124.8
;              FILING DATE: 11-MAR-1996
;         ATTORNEY/AGENT INFORMATION:
;              NAME: SADOFF, B. J.
;              REGISTRATION NUMBER: 36663
;              REFERENCE/DOCKET NUMBER: 117-263
;         TELECOMMUNICATION INFORMATION:
;              TELEPHONE: 7038164000
;              TELEFAX: 7038164100
;    INFORMATION FOR SEQ ID NO: 11:
;         SEQUENCE CHARACTERISTICS:
;              LENGTH: 156 amino acids
;              TYPE: amino acid
;              TOPOLOGY: linear
;         MOLECULE TYPE: protein
;         SEQUENCE DESCRIPTION: SEQ ID NO: 11:
US-09-142-583A-11

  Query Match             70.6%;  Score 423;  DB 3;  Length 156;
  Best Local Similarity   90.7%;  Pred. No. 4.2e-41;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         52 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 111

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:||||||||||||||
Db        112 CAPLKPAKSARSVRAQRHTDMPKTQK 137


RESULT 7
5405942-1
;Patent No. 5405942
;    APPLICANT: BELL, GRAEME I.;RALL, LESLIE B.;MERRYWEATHER,
;JAMES P.
;    TITLE OF INVENTION: PREPRO INSULIN-LIKE GROWTH FACTORS
;I AND II
;    NUMBER OF SEQUENCES: 16
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;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/07/65,673
;       FILING DATE: 16-JUN-1987
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER: 630,557
;       FILING DATE: 19-JUL-1984
;SEQ ID NO:1:
;       LENGTH: 119
5405942-1

  Query Match             69.4%;  Score 416;  DB 6;  Length 119;
  Best Local Similarity   89.5%;  Pred. No. 2e-40;
  Matches   77;  Conservative    1;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db         15 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDHRRLEMY 74

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:||||||||||||||
Db         75 CAPLKPAKSARSVRAQRHTDMPKTQK 100


RESULT 8
US-08-989-251-41
; Sequence 41, Application US/08989251
; Patent No. 6017731
;  GENERAL INFORMATION:
;    APPLICANT:  Tekamp-Olson, Patricia
;    TITLE OF INVENTION:  METHOD FOR EXPRESSION OF HETEROLOGOUS
;    TITLE OF INVENTION:  PROTEINS IN YEAST
;    NUMBER OF SEQUENCES:  41
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Bell Seltzer IP Group of Alston & Bird, LLP
;      STREET:  3605 Glenwood Ave. Suite 310
;      CITY:  Raleigh
;      STATE:  NC
;      COUNTRY:  US
;      ZIP:  27622
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/989,251
;      FILING DATE:
;      CLASSIFICATION:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Spruill, W. Murray
;      REGISTRATION NUMBER:  32,943
;      REFERENCE/DOCKET NUMBER:  5784-4
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  919 420 2202
;      TELEFAX:  919 881 3175
;  INFORMATION FOR SEQ ID NO:  41:
;    SEQUENCE CHARACTERISTICS:
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```
;       LENGTH:  191 amino acids
;       TYPE:  amino acid
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  protein
US-08-989-251-41

  Query Match             68.9%;  Score 412.5;  DB 3;  Length 191;
  Best Local Similarity   89.7%;  Pred. No. 8.6e-40;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    1;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CVRCKPTKSA-RSIRAQRHTDMPKTQK 86
                 |   || ||| ||:||||||||||||
Db        146 CAPLKPAKSAKRSVRAQRHTDMPKTQK 172


RESULT 9
US-09-340-250-41
; Sequence 41, Application US/09340250
; Patent No. 6083723
;  GENERAL INFORMATION:
;    APPLICANT:  Tekamp-Olson, Patricia
;    TITLE OF INVENTION:  METHOD FOR EXPRESSION OF HETEROLOGOUS
;    TITLE OF INVENTION:  PROTEINS IN YEAST
;    NUMBER OF SEQUENCES:  41
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Bell Seltzer IP Group of Alston & Bird, LLP
;      STREET:  3605 Glenwood Ave. Suite 310
;      CITY:  Raleigh
;      STATE:  NC
;      COUNTRY:  US
;      ZIP:  27622
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/340,250
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/989,251
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Spruill, W. Murray
;      REGISTRATION NUMBER:  32,943
;      REFERENCE/DOCKET NUMBER:  5784-4
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  919 420 2202
;      TELEFAX:  919 881 3175
;  INFORMATION FOR SEQ ID NO:  41:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  191 amino acids
```

```
;       TYPE:  amino acid
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  protein
US-09-340-250-41

  Query Match             68.9%;  Score 412.5;  DB 3;  Length 191;
  Best Local Similarity   89.7%;  Pred. No. 8.6e-40;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    1;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CVRCKPTKSA-RSIRAQRHTDMPKTQK 86
              |   || ||| ||:|||||||||||||
Db        146 CAPLKPAKSAKRSVRAQRHTDMPKTQK 172


RESULT 10
US-09-528-108-41
; Sequence 41, Application US/09528108
; Patent No. 6312923
;  GENERAL INFORMATION:
;    APPLICANT:  Tekamp-Olson, Patricia
;    TITLE OF INVENTION:  METHOD FOR EXPRESSION OF HETEROLOGOUS
;    TITLE OF INVENTION:  PROTEINS IN YEAST
;    NUMBER OF SEQUENCES:  41
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Bell Seltzer IP Group of Alston & Bird, LLP
;      STREET:  3605 Glenwood Ave. Suite 310
;      CITY:  Raleigh
;      STATE:  NC
;      COUNTRY:  US
;      ZIP:  27622
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/528,108
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/989,251
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Spruill, W. Murray
;      REGISTRATION NUMBER:  32,943
;      REFERENCE/DOCKET NUMBER:  5784-4
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  919 420 2202
;      TELEFAX:  919 881 3175
;  INFORMATION FOR SEQ ID NO:  41:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  191 amino acids
;      TYPE:  amino acid
```

```
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-09-528-108-41

  Query Match             68.9%;  Score 412.5;  DB 4;  Length 191;
  Best Local Similarity   89.7%;  Pred. No. 8.6e-40;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    1;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CVRCKPTKSA-RSIRAQRHTDMPKTQK 86
              |   || ||| ||:|||||||||||||
Db        146 CAPLKPAKSAKRSVRAQRHTDMPKTQK 172


RESULT 11
US-08-460-890A-47
; Sequence 47, Application US/08460890A
; Patent No. 5994109
;  GENERAL INFORMATION:
;    APPLICANT:  Woo, Savio L.C.
;    APPLICANT:  Smith, Louis C.
;    APPLICANT:  Cristiano, Richard J.
;    APPLICANT:  Gottchalk, Stephen
;    TITLE OF INVENTION:  NUCLEIC ACID TRANSPORTER SYSTEMS AND
;    TITLE OF INVENTION:  METHODS OF USE
;    NUMBER OF SEQUENCES:  65
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Lyon & Lyon
;      STREET:  633 West Fifth Street
;      STREET:  Suite 4700
;      CITY:  Los Angeles
;      STATE:  California
;      COUNTRY:  U.S.A.
;      ZIP:  90071-2066
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;      MEDIUM TYPE:  storage
;      COMPUTER:  IBM Compatible
;      OPERATING SYSTEM:  IBM P.C. DOS 5.0
;      SOFTWARE:  FastSEQ for Windows 2.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/460,890A
;      FILING DATE:  June 5, 1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/167,641
;      FILING DATE:  December 14, 1993
;      APPLICATION NUMBER:  07/855,389
;      FILING DATE:  March 20, 1992
;      APPLICATION NUMBER:  PCT/US93/02725
;      FILING DATE:  March 19, 1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Warburg, Richard J.
;      REGISTRATION NUMBER:  32,327
```

```
;       REFERENCE/DOCKET NUMBER:  212/066
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (213) 489-1600
;       TELEFAX:  (213) 955-0440
;       TELEX:  67-3510
;   INFORMATION FOR SEQ ID NO:  47:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  78 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
US-08-460-890A-47

  Query Match             61.3%;  Score 367;  DB 2;  Length 78;
  Best Local Similarity   87.0%;  Pred. No. 5.1e-35;
  Matches   67;  Conservative    3;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          4 TLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVR 63
              |||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||||
Db          2 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCAP 61

Qy         64 CKPTKSARSIRAQRHTD 80
               :| :||||:|||||||
Db         62 LRPARSARSVRAQRHTD 78


RESULT 12
US-08-167-641C-47
; Sequence 47, Application US/08167641C
; Patent No. 6033884
;  GENERAL INFORMATION:
;    APPLICANT:  Woo, Savio L.C.
;    APPLICANT:  Smith, Louis C.
;    APPLICANT:  Cristiano, Richard J.
;    APPLICANT:  Gottchalk, Stephen
;    TITLE OF INVENTION:  NUCLEIC ACID TRANSPORTER SYSTEMS AND
;    TITLE OF INVENTION:  METHODS OF USE
;    NUMBER OF SEQUENCES:  65
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Lyon & Lyon
;      STREET:  633 West Fifth Street
;      STREET:  Suite 4700
;      CITY:  Los Angeles
;      STATE:  California
;      COUNTRY:  U.S.A.
;      ZIP:  90071-2066
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;      MEDIUM TYPE:  storage
;      COMPUTER:  IBM Compatible
;      OPERATING SYSTEM:  IBM P.C. DOS 5.0
;      SOFTWARE:  FastSEQ for Windows 2.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/167,641C
;      FILING DATE:  December 14, 1993
;      CLASSIFICATION:  435
```

```
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  07/855,389
;       FILING DATE:  March 20, 1992
;       APPLICATION NUMBER:  PCT/US93/02725
;       FILING DATE:  March 19, 1993
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Warburg, Richard J.
;       REGISTRATION NUMBER:  32,327
;       REFERENCE/DOCKET NUMBER:  205/012
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (213) 489-1600
;       TELEFAX:  (213) 955-0440
;       TELEX:  67-3510
;   INFORMATION FOR SEQ ID NO:  47:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  78 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
US-08-167-641C-47

  Query Match             61.3%;  Score 367;  DB 3;  Length 78;
  Best Local Similarity   87.0%;  Pred. No. 5.1e-35;
  Matches   67;  Conservative    3;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          4 TLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVR 63
              |||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||||
Db          2 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCAP 61

Qy         64 CKPTKSARSIRAQRHTD 80
               :| :||||:|||||||
Db         62 LRPARSARSVRAQRHTD 78


RESULT 13
US-08-460-971A-47
; Sequence 47, Application US/08460971A
; Patent No. 6150168
;  GENERAL INFORMATION:
;     APPLICANT:  Woo, Savio L.C.
;     APPLICANT:  Smith, Louis C.
;     APPLICANT:  Cristiano, Richard J.
;     APPLICANT:  Gottchalk, Stephen
;     TITLE OF INVENTION:  NUCLEIC ACID TRANSPORTER SYSTEMS AND
;     TITLE OF INVENTION:  METHODS OF USE
;     NUMBER OF SEQUENCES:  65
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  Lyon & Lyon
;       STREET:  633 West Fifth Street
;       STREET:  Suite 4700
;       CITY:  Los Angeles
;       STATE:  California
;       COUNTRY:  U.S.A.
;       ZIP:  90071-2066
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
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;       MEDIUM TYPE:  storage
;       COMPUTER:  IBM Compatible
;       OPERATING SYSTEM:  IBM P.C. DOS 5.0
;       SOFTWARE:  FastSEQ for Windows 2.0
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/460,971A
;       FILING DATE:  June 5, 1995
;       CLASSIFICATION:  435
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/167,641
;       FILING DATE:  December 14, 1993
;       APPLICATION NUMBER:  07/855,389
;       FILING DATE:  March 20, 1992
;       APPLICATION NUMBER:  PCT/US93/02725
;       FILING DATE:  March 19, 1993
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Warburg, Richard J.
;       REGISTRATION NUMBER:  32,327
;       REFERENCE/DOCKET NUMBER:  212/063
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (213) 489-1600
;       TELEFAX:  (213) 955-0440
;       TELEX:  67-3510
;   INFORMATION FOR SEQ ID NO:  47:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  78 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
US-08-460-971A-47

  Query Match             61.3%;  Score 367;  DB 3;  Length 78;
  Best Local Similarity   87.0%;  Pred. No. 5.1e-35;
  Matches   67;  Conservative    3;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          4 TLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVR 63
              |||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||||
Db          2 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCAP 61

Qy         64 CKPTKSARSIRAQRHTD 80
               :| :|||||:|||||||
Db         62 LRPARSARSVRAQRHTD 78


RESULT 14
US-08-462-040-47
; Sequence 47, Application US/08462040
; Patent No. 6177554
;  GENERAL INFORMATION:
;    APPLICANT:  Woo, Savio L.C.
;    APPLICANT:  Smith, Louis C.
;    APPLICANT:  Cristiano, Richard J.
;    APPLICANT:  Gottchalk, Stephen
;    TITLE OF INVENTION:  NUCLEIC ACID TRANSPORTER SYSTEMS AND
;    TITLE OF INVENTION:  METHODS OF USE
;    NUMBER OF SEQUENCES:  65
```

```
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  Lyon & Lyon
;       STREET:  633 West Fifth Street
;       STREET:  Suite 4700
;       CITY:  Los Angeles
;       STATE:  California
;       COUNTRY:  U.S.A.
;       ZIP:  90071-2066
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  3.5" Diskette, 1.44 Mb
;       MEDIUM TYPE:  storage
;       COMPUTER:  IBM Compatible
;       OPERATING SYSTEM:  IBM P.C. DOS 5.0
;       SOFTWARE:  FastSEQ for Windows 2.0
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/462,040
;       FILING DATE:  June 5, 1995
;       CLASSIFICATION:  536
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/167,641
;       FILING DATE:  December 14, 1993
;       APPLICATION NUMBER:  07/855,389
;       FILING DATE:  March 20, 1992
;       APPLICATION NUMBER:  PCT/US93/02725
;       FILING DATE:  March 19, 1993
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Warburg, Richard J.
;       REGISTRATION NUMBER:  32,327
;       REFERENCE/DOCKET NUMBER:  212/078
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (213) 489-1600
;       TELEFAX:  (213) 955-0440
;       TELEX:  67-3510
;   INFORMATION FOR SEQ ID NO:  47:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  78 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
US-08-462-040-47

  Query Match             61.3%;  Score 367;  DB 3;  Length 78;
  Best Local Similarity   87.0%;  Pred. No. 5.1e-35;
  Matches   67;  Conservative    3;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          4 TLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMYCVR 63
              |||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||||
Db          2 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMYCAP 61

Qy         64 CKPTKSARSIRAQRHTD 80
              :| :||||:|||||||
Db         62 LRPARSARSVRAQRHTD 78


RESULT 15
US-07-953-230A-9
```

```
; Sequence 9, Application US/07953230A
; Patent No. 5476779
;  GENERAL INFORMATION:
;    APPLICANT:  CHEN, Thomas T
;    APPLICANT:  SHAMBLOTT, Michael J
;    TITLE OF INVENTION:  INSULIN-LIKE GROWTH FACTORS ISOLATED
;    TITLE OF INVENTION:  FROM RAINBOW TROUT
;    NUMBER OF SEQUENCES:  12
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Burns, Doane, Swecker & Mathis
;      STREET:  George Mason Bldg., Washington & Prince Sts.
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  United States
;      ZIP:  22313-1404
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/953,230A
;      FILING DATE:  30-SEP-1992
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Crane-Feury, Sharon E
;      REGISTRATION NUMBER:  36,113
;      REFERENCE/DOCKET NUMBER:  028755-010
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703) 836-6620
;      TELEFAX:  (703) 836-2021
;  INFORMATION FOR SEQ ID NO:  9:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  176 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-07-953-230A-9

  Query Match             59.9%;  Score 359;  DB 1;  Length 176;
  Best Local Similarity   67.3%;  Pred. No. 1.1e-33;
  Matches   68;  Conservative    8;  Mismatches   25;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| |||||| |||||:||| || | ||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRR 101
              |   |  |:|||:||||||||:| |         |  :||
Db        105 CAPVKSGKAARSVRAQRHTDMPRTPKVSTAVQSVDRGTERR 145


Search completed: December 12, 2003, 16:41:15
Job time : 15.3765 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: December 12, 2003, 16:34:56 ; Search time 11.7018 Seconds
(without alignments)
912.229 Million cell updates/sec

Title: US-09-852-261-4
Perfect score: 599
Sequence: 1 GPETLCGAELVDALQFVCGP.....THKKRKLQRRRKGSTLEEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283308 seqs, 96168682 residues

Total number of hits satisfying chosen parameters: 283308

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_76:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	592	98.8	133	2	A40912	insulin-like growt
2	571	95.3	159	2	A26859	insulin-like growt
3	536	89.5	181	2	A27804	insulin-like growt
4	464	77.5	127	2	B40912	insulin-like growt
5	464	77.5	195	1	IGHU1B	insulin-like growt
6	443	74.0	153	2	B27804	insulin-like growt
7	440	73.5	127	2	A25540	insulin-like growt
8	423	70.6	137	1	IGGP1	insulin-like growt
9	423	70.6	137	2	A36552	insulin-like growt
10	423	70.6	153	1	IGHU1	insulin-like growt
11	423	70.6	154	2	JC2483	insulin-like growt
12	418	69.8	122	2	PN0622	insulin-like growt
13	418	69.8	153	1	IGBO1	insulin-like growt

14	418	69.8	153	2	S12825	insulin-like growt
15	410	68.4	138	2	S22878	insulin-like growt
16	410	68.4	154	2	A33390	insulin-like growt
17	384	64.1	153	2	A41399	insulin-like growt
18	376.5	62.9	153	2	A36079	insulin-like growt
19	362.5	60.5	161	2	C54270	insulin-like growt
20	361	60.3	155	2	C44012	insulin-like growt
21	361	60.3	176	2	A41396	insulin-like growt
22	361	60.3	188	2	A54270	insulin-like growt
23	361	60.3	188	2	B54270	insulin-like growt
24	360	60.1	149	2	D54270	insulin-like growt
25	359	59.9	176	2	A46244	insulin-like growt
26	279.5	46.7	126	2	S66485	insulin-like growt
27	279	46.6	193	2	A53697	insulin-like growt
28	249	41.6	214	2	B46244	insulin-like growt
29	233	38.9	155	1	IGBO2	insulin-like growt
30	232	38.7	179	2	S04858	insulin-like growt
31	224	37.4	187	2	T10897	insulin-like growt
32	223	37.2	139	2	A38612	insulin-like growt
33	222	37.1	181	2	B60738	insulin-like growt
34	221	36.9	180	1	IGHU2	insulin-like growt
35	219.5	36.6	183	2	S02423	insulin-like growt
36	216	36.1	128	2	I57671	insulin-like growt
37	215	35.9	93	2	I53642	insulin-like growt
38	212	35.4	180	2	A24913	insulin-like growt
39	211.5	35.3	183	2	I67610	insulin-like growt
40	209.5	35.0	180	1	IGRT2	insulin-like growt
41	204	34.1	210	2	S66484	insulin-like growt
42	184.5	30.8	79	2	I51240	insulin-like growt
43	181	30.2	66	2	A60740	insulin-like growt
44	159	26.5	44	2	A34049	insulin-like growt
45	152.5	25.5	50	1	INFIS	insulin - shorthor

ALIGNMENTS

RESULT 1
A40912
insulin-like growth factor I precursor form 1 - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 16-Jul-1999
C;Accession: A40912
R;Roberts Jr., C.T.; Lasky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.
Mol. Endocrinol. 1, 243-248, 1987
A;Title: Molecular cloning of rat insulin-like growth factor I complementary
deoxyribonucleic acids: differential messenger ribonucleic acid processing and
regulation by growth hormone in extrahepatic tissues.
A;Reference number: A40912; MUID:88288198; PMID:3453891
A;Accession: A40912
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-133 <ROB>
A;Cross-references: GB:M15480; NID:g204749; PIDN:AAA41385.1; PID:g204750
C;Superfamily: insulin

Query Match 98.8%; Score 592; DB 2; Length 133;

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  Best Local Similarity   99.1%;  Pred. No. 7.3e-53;
  Matches  110;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Db         23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
              |||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         83 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 133


RESULT 2
A26859
insulin-like growth factor IB precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change 16-Jul-1999
C;Accession: A26859
R;Shimatsu, A.; Rotwein, P.
Nucleic Acids Res. 15, 7196, 1987
A;Title: Sequence of two rat insulin-like growth factor I mRNAs differing within
the 5' untranslated region.
A;Reference number: A26859; MUID:88015572; PMID:3658684
A;Accession: A26859
A;Molecule type: mRNA
A;Residues: 1-159 <SHI>
A;Cross-references: GB:X06107; GB:M32260; GB:Y00429; NID:g56424;
PIDN:CAA29480.1; PID:g56425
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor

  Query Match             95.3%;  Score 571;  DB 2;  Length 159;
  Best Local Similarity   96.4%;  Pred. No. 1.2e-50;
  Matches  107;  Conservative    0;  Mismatches    4;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
              |   |||||||||||||||||||||||||||||||||||||||||||||||||||
Db        109 CAPLKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 159


RESULT 3
A27804
insulin-like growth factor I precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 09-Jun-1988 #sequence_revision 09-Jun-1988 #text_change 16-Jul-1999
C;Accession: A27804; I65202
R;Shimatsu, A.; Rotwein, P.
J. Biol. Chem. 262, 7894-7900, 1987
A;Title: Mosaic evolution of the insulin-like growth factors. Organization,
sequence, and expression of the rat insulin-like growth factor I gene.
A;Reference number: A27804; MUID:87222423; PMID:3034909
A;Accession: A27804
A;Status: preliminary
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A;Molecule type: DNA
A;Residues: 1-181 <SHI>
A;Cross-references: GB:M15650; GB:J02743; NID:g204296; PIDN:AAA41214.1;
PID:g204299
R;Roberts, C.T.
Biochem. Biophys. Res. Commun. 146, 1154-1159, 1987
A;Title: Rat IGF-I cDNA's contain multiple 5'-untranslated regions.
A;Reference number: I52218; MUID:87298553; PMID:3619921
A;Accession: I65202
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-27 <RES>
A;Cross-references: GB:M17594; NID:g204759; PIDN:AAA41390.1; PID:g204760
C;Superfamily: insulin
C;Keywords: alternative splicing

  Query Match   89.5%; Score 536; DB 2; Length 181;
  Best Local Similarity   94.3%; Pred. No. 4.6e-47;
  Matches 100; Conservative   1; Mismatches   5; Indels   0; Gaps   0;

Qy   1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Db   49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy   61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGST 106
              | |||||||||||||||||||||||||||||||||||||||| :
Db   109 CAPLKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGES 154

RESULT 4
B40912
insulin-like growth factor I precursor form 2 - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 16-Jul-1999
C;Accession: B40912
R;Roberts Jr., C.T.; Lasky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.
Mol. Endocrinol. 1, 243-248, 1987
A;Title: Molecular cloning of rat insulin-like growth factor I complementary
deoxyribonucleic acids: differential messenger ribonucleic acid processing and
regulation by growth hormone in extrahepatic tissues.
A;Reference number: A40912; MUID:88288198; PMID:3453891
A;Accession: B40912
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-127 <ROB>
A;Cross-references: GB:M15481; NID:g204753; PIDN:AAA41387.1; PID:g204754
C;Superfamily: insulin

  Query Match   77.5%; Score 464; DB 2; Length 127;
  Best Local Similarity   98.8%; Pred. No. 6.5e-40;
  Matches   85; Conservative   0; Mismatches   1; Indels   0; Gaps   0;

Qy   1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Db   23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy   61 CVRCKPTKSARSIRAQRHTDMPKTQK 86

```
                    ||||||||||||||||||||||||
Db          83 CVRCKPTKSARSIRAQRHTDMPKTQK 108
```

RESULT 5
IGHU1B
insulin-like growth factor I precursor, splice form B [validated] - human
N;Alternate names: IGF-IB; somatomedin C
N;Contains: insulin-like growth factor IB-E1 amide
C;Species: Homo sapiens (man)
C;Date: 30-Jun-1987 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
C;Accession: A01611; A26181; S30540; B48960; A42664
R;Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.
J. Biol. Chem. 261, 4828-4832, 1986
A;Title: Organization and sequence of the human insulin-like growth factor I gene. Alternative RNA processing produces two insulin-like growth factor I precursor peptides.
A;Reference number: A92581; MUID:86168194; PMID:2937782
A;Accession: A01611
A;Molecule type: DNA
A;Residues: 1-195 <ROT1>
A;Cross-references: GB:M14155; NID:g183106; PIDN:AAA52537.1; PID:g183109
R;Rotwein, P.
Proc. Natl. Acad. Sci. U.S.A. 83, 77-81, 1986
A;Title: Two insulin-like growth factor I messenger RNAs are expressed in human liver.
A;Reference number: A26181; MUID:86094355; PMID:3455760
A;Accession: A26181
A;Molecule type: mRNA
A;Residues: 1-195 <ROT2>
A;Cross-references: GB:M11568; NID:g183111; PIDN:AAA52539.1; PID:g183112
R;Sandberg Nordqvist, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.
submitted to the EMBL Data Library, November 1990
A;Description: Nucleotide sequence of the human fetal brain IGF-1b.
A;Reference number: S30540
A;Accession: S30540
A;Molecule type: mRNA
A;Residues: 1-195 <SAN>
A;Cross-references: EMBL:X56774; NID:g32991; PIDN:CAA40093.1; PID:g32992
R;Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H.; Sara, V.
Cancer Res. 53, 2475-2478, 1993
A;Title: Characterization of insulin-like growth factor 1 in human primary brain tumors.
A;Reference number: A48960; MUID:93265440; PMID:8495408
A;Accession: B48960
A;Molecule type: mRNA
A;Residues: 1-195 <SA2>
A;Cross-references: GB:X56774; GB:S61860; NID:g32991; PIDN:CAA40093.1; PID:g32992
A;Experimental source: anaplastic oligodendroglioma
A;Note: sequence modified after extraction from NCBI backbone
A;Note: the authors translated the codon CAG for residues 124 and 133 as Glu
A;Note: sequence extracted from NCBI backbone (NCBIN:133058)
R;Siegfried, J.M.; Kasprzyk, P.G.; Treston, A.M.; Mulshine, J.L.; Quinn, K.A.; Cuttitta, F.
Proc. Natl. Acad. Sci. U.S.A. 89, 8107-8111, 1992

A;Title: A mitogenic peptide amide encoded within the E peptide domain of the insulin-like growth factor IB prohormone.
A;Reference number: A42664; MUID:92390398; PMID:1325646
A;Contents: annotation; IBE-1; amidated carboxyl end
C;Comment: For an alternative splice form, see PIR:IGHU1.
C;Genetics:
A;Gene: GDB:IGF1
A;Cross-references: GDB:120081; OMIM:147440
A;Map position: 12q22-12q24.1
A;Introns: 21/3; 74/1; 134/3
C;Superfamily: insulin
C;Keywords: alternative splicing; amidated carboxyl end; growth factor; plasma
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-48/Domain: propeptide #status predicted <PRO>
F;49-118/Product: insulin-like growth factor I #status predicted <MAT>
F;49-77/Domain: insulin chain B-like #status predicted <CHB>
F;78-89/Domain: insulin connecting C peptide-like #status predicted <CHC>
F;90-110/Domain: insulin chain A-like #status predicted <CHA>
F;111-118/Domain: D peptide #status predicted <CHD>
F;119-195/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>
F;151-172/Product: insulin-like growth factor IB-E1 amide #status predicted <MA2>
F;54-96,66-109,95-100/Disulfide bonds: #status predicted
F;172/Modified site: amidated carboxyl end (Arg) (amide in mature form from following glycine) #status predicted

  Query Match 77.5%; Score 464; DB 1; Length 195;
  Best Local Similarity 85.3%; Pred. No. 9.6e-40;
  Matches 87; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

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Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRR 102
              |   || |||||:||||||||||||| || ||:|  | |||:
Db        109 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRRK 150
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RESULT 6
B27804
insulin-like growth factor IA precursor - rat
N;Alternate names: IGF-IA; somatomedin C
C;Species: Rattus norvegicus (Norway rat)
C;Date: 16-Mar-1989 #sequence_revision 16-Mar-1989 #text_change 21-Jul-2000
C;Accession: B27804; A27849; JH0133; A28504; JN0088; A32857; A61096
R;Shimatsu, A.; Rotwein, P.
J. Biol. Chem. 262, 7894-7900, 1987
A;Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence, and expression of the rat insulin-like growth factor I gene.
A;Reference number: A27804; MUID:87222423; PMID:3034909
A;Accession: B27804
A;Molecule type: DNA
A;Residues: 1-153 <SHI>
A;Cross-references: GB:M15651; GB:J02743; NID:g204297; PIDN:AAA41215.1; PID:g204300

R;Casella, S.J.; Smith, E.P.; Van Wyk, J.J.; Joseph, D.R.; Hynes, M.A.; Hoyt, E.C.; Lund, P.K.
DNA 6, 325-330, 1987
A;Title: Isolation of rat testis cDNAs encoding an insulin-like growth factor I precursor.
A;Reference number: A27849; MUID:88003970; PMID:3652906
A;Accession: A27849
A;Molecule type: mRNA
A;Residues: 27-153 <CAS>
A;Cross-references: GB:M17335; NID:g204751; PIDN:AAA41386.1; PID:g204752
R;Kato, H.; Okoshi, A.; Miura, Y.; Noguchi, T.
Agric. Biol. Chem. 54, 1599-1601, 1990
A;Title: A new cDNA clone relating to larger molecular species of rat insulin-like growth factor-I mRNA.
A;Reference number: JH0133; MUID:91103966; PMID:1368571
A;Accession: JH0133
A;Molecule type: mRNA
A;Residues: 27-153 <KAT>
A;Cross-references: GB:D00698; NID:g220780; PIDN:BAA00604.1; PID:g220781
A;Experimental source: liver
R;Murphy, L.J.; Bell, G.I.; Duckworth, M.L.; Friesen, H.G.
Endocrinology 121, 684-691, 1987
A;Title: Identification, characterization, and regulation of a rat complementary deoxyribonucleic acid which encodes insulin-like growth factor-I.
A;Reference number: A28504; MUID:87246437; PMID:3595538
A;Accession: A28504
A;Molecule type: mRNA
A;Residues: 46-153 <MUR>
A;Cross-references: GB:M17714; NID:g204324; PIDN:AAA41227.1; PID:g204325
R;Kato, H.; Takenaka, A.; Miura, Y.; Nishiyama, M.; Noguchi, T.
Agric. Biol. Chem. 54, 2225-2230, 1990
A;Title: Evidence of introduction by molecular cloning of artificial inverted sequence at the 5'terminus of the sense strand of rat insulin-like growth factor-I cDNA.
A;Reference number: JN0088; MUID:91136779; PMID:1368576
A;Accession: JN0088
A;Molecule type: mRNA
A;Residues: 'MSAPP',22-153 <KA2>
A;Experimental source: liver
A;Note: the authors present evidence that this mRNA may contain an artifactual inversion
R;Tamura, K.; Kobayashi, M.; Ishii, Y.; Tamura, T.; Hashimoto, K.; Nakamura, S.; Niwa, M.; Zapf, J.
J. Biol. Chem. 264, 5616-5621, 1989
A;Title: Primary structure of rat insulin-like growth factor-I and its biological activities.
A;Reference number: A32857; MUID:89174609; PMID:2538424
A;Accession: A32857
A;Molecule type: protein
A;Residues: 49-118 <TAM>
R;Canalis, E.; McCarthy, T.; Centrella, M.
Endocrinology 122, 22-27, 1988
A;Title: Isolation and characterization of insulin-like growth factor I (somatomedin-C) from cultures of fetal rat calvariae.
A;Reference number: A61096; MUID:88082445; PMID:3335205
A;Accession: A61096
A;Molecule type: protein

A;Residues: 49-53,'X',55-65 <CAN>
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor
F;49-118/Product: insulin-like growth factor I #status experimental <ILG>

  Query Match 74.0%; Score 443; DB 2; Length 153;
  Best Local Similarity 95.3%; Pred. No. 1e-37;
  Matches 82; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

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Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   ||||||||||||||||||||||
Db        109 CAPLKPTKSARSIRAQRHTDMPKTQK 134
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RESULT 7
A25540
insulin-like growth factor IA precursor - mouse
N;Alternate names: IGF-IA; somatomedin C
C;Species: Mus musculus (house mouse)
C;Date: 30-Jun-1988 #sequence_revision 30-Jun-1988 #text_change 16-Jul-1999
C;Accession: A25540; I55295; I59090; B25540
R;Bell, G.I.; Stempien, M.M.; Fong, N.M.; Rall, L.B.
Nucleic Acids Res. 14, 7873-7882, 1986
A;Title: Sequences of liver cDNAs encoding two different mouse insulin-like growth factor I precursors.
A;Reference number: A93643; MUID:87040760; PMID:3774549
A;Accession: A25540
A;Molecule type: mRNA
A;Residues: 1-127 <BEL>
A;Cross-references: GB:X04480; NID:g51801; PIDN:CAA28168.1; PID:g51802
R;Tollefsen, S.E.; Lajara, R.; McCusker, R.H.; Clemmons, D.R.; Rotwein, P.
J. Biol. Chem. 264, 13810-13817, 1989
A;Title: Insulin-like growth factors (IGF) in muscle development. Expression of IGF-I, the IGF-I receptor, and an IGF binding protein during myoblast differentiation.
A;Reference number: I55295; MUID:89340472; PMID:2474537
A;Accession: I55295
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 49-108 <RES>
A;Cross-references: GB:M28139; NID:g341835; PIDN:AAA74553.1; PID:g550489
R;Mathews, L.S.; Norstedt, G.; Palmiter, R.D.
Proc. Natl. Acad. Sci. U.S.A. 83, 9343-9347, 1986
A;Title: Regulation of insulin-like growth factor I gene expression by growth hormone.
A;Reference number: I59090; MUID:87092249; PMID:3467309
A;Accession: I59090
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 49-108 <RE2>
A;Cross-references: GB:M14983; NID:g194495; PIDN:AAA37925.1; PID:g194496
C;Genetics:
A;Gene: igf1

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C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor
F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-127/Product: insulin-like growth factor IA (active) #status predicted <MAT>
F;23-51/Domain: insulin chain B-like #status predicted <DOB>
F;52-63/Domain: insulin connecting C peptide-like #status predicted <DOC>
F;64-84/Domain: insulin chain A-like #status predicted <DOA>
F;85-92/Domain: D peptide #status predicted <DOD>
F;93-127/Domain: carboxyl-terminal propeptide (E peptide) #status predicted
<CTP>

  Query Match             73.5%;  Score 440;  DB 2;  Length 127;
  Best Local Similarity   94.2%;  Pred. No. 1.8e-37;
  Matches   81;  Conservative    1;  Mismatches    4;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Db         23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   ||||:||||||||||||||||
Db         83 CAPLKPTKAARSIRAQRHTDMPKTQK 108


RESULT 8
IGGP1
insulin-like growth factor I precursor - guinea pig
C;Species: Cavia porcellus (guinea pig)
C;Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 07-Nov-1997
C;Accession: S12719
R;Bell, G.I.; Stempien, M.M.; Fong, N.M.; Seino, S.
Nucleic Acids Res. 18, 4275, 1990
A;Title: Sequence of a cDNA encoding guinea pig IGF-I.
A;Reference number: S12719; MUID:90332447; PMID:2377480
A;Accession: S12719
A;Molecule type: mRNA
A;Residues: 1-137 <BEL>
A;Cross-references: EMBL:X52951
A;Note: it is uncertain whether Met-1 or Met-8 is the initiator
C;Superfamily: insulin
C;Keywords: glycoprotein; growth factor; plasma
F;1-32/Domain: signal sequence #status predicted <SIG>
F;33-102/Product: insulin-like growth factor I #status predicted <MAT>
F;33-61/Domain: insulin chain B-like #status predicted <CHB>
F;62-73/Domain: insulin connecting C peptide-like #status predicted <CHC>
F;74-94/Domain: insulin chain A-like #status predicted <CHA>
F;95-102/Domain: D peptide #status predicted <CHD>
F;103-137/Domain: carboxyl-terminal propeptide (E peptide) #status predicted
<CHE>
F;124/Binding site: carbohydrate (Asn) (covalent) #status predicted

  Query Match             70.6%;  Score 423;  DB 1;  Length 137;
  Best Local Similarity   90.7%;  Pred. No. 9.9e-36;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
```

```
Db         33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:||||||||||||||
Db         93 CAPLKPAKSARSVRAQRHTDMPKTQK 118
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RESULT 9
A36552
insulin-like growth factor 1a precursor - human
C;Species: Homo sapiens (man)
C;Date: 12-Apr-1991 #sequence_revision 12-Apr-1991 #text_change 16-Jul-1999
C;Accession: A36552
R;Tobin, G.; Yee, D.; Bruenner, N.; Rotwein, P.
Mol. Endocrinol. 4, 1914-1920, 1990
A;Title: A novel human insulin-like growth factor I messenger RNA is expressed in normal and tumor cells.
A;Reference number: A36552; MUID:91187000; PMID:2082190
A;Accession: A36552
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-137 <TOB>
A;Cross-references: GB:M37484; NID:g184833; PIDN:AAA52789.1; PID:g184834
C;Superfamily: insulin

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  Query Match             70.6%;  Score 423;  DB 2;  Length 137;
  Best Local Similarity   90.7%;  Pred. No. 9.9e-36;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:||||||||||||||
Db         93 CAPLKPAKSARSVRAQRHTDMPKTQK 118
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RESULT 10
IGHU1
insulin-like growth factor I precursor, splice form A [validated] - human
N;Alternate names: IGF-I long splice form precursor; IGF-IA; somatomedin C
C;Species: Homo sapiens (man)
C;Date: 24-Apr-1984 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
C;Accession: A92581; A23614; A93321; JT0571; A23622; A92226; A60483; S30519; A48960; I57044; A01610
R;Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.
J. Biol. Chem. 261, 4828-4832, 1986
A;Title: Organization and sequence of the human insulin-like growth factor I gene. Alternative RNA processing produces two insulin-like growth factor I precursor peptides.
A;Reference number: A92581; MUID:86168194; PMID:2937782
A;Accession: A92581
A;Molecule type: DNA
A;Residues: 1-153 <ROT>
A;Cross-references: GB:M14156; NID:g183107; PIDN:AAA52538.1; PID:g183110

R;de Pagter-Holthuizen, P.; van Schaik, F.M.A.; Verduijn, G.M.; van Ommen, G.J.B.; Bouma, B.N.; Jansen, M.; Sussenbach, J.S.
FEBS Lett. 195, 179-184, 1986
A;Title: Organization of the human genes for insulin-like growth factors I and II.
A;Reference number: A91356; MUID:86108862; PMID:3002851
A;Accession: A23614
A;Molecule type: DNA
A;Residues: 24-153 <DEP>
A;Cross-references: GB:X03420; GB:X00362; NID:g33020; PIDN:CAA27152.1; PID:g33021; GB:X03421; NID:g33024; PID:g755741; GB:X03422; NID:g33027; PID:g1335141
R;Jansen, M.; van Schaik, F.M.A.; Ricker, A.T.; Bullock, B.; Woods, D.E.; Gabbay, K.H.; Nussbaum, A.L.; Sussenbach, J.S.; Van den Brande, J.L.
Nature 306, 609-611, 1983
A;Title: Sequence of cDNA encoding human insulin-like growth factor I precursor.
A;Reference number: A93321; MUID:84068210; PMID:6358902
A;Accession: A93321
A;Molecule type: mRNA
A;Residues: 1-153 <JAN>
A;Cross-references: GB:X00173; NID:g33015; PIDN:CAA24998.1; PID:g33016
A;Note: Met-24 is proposed as a likely initiator
R;Steenbergh, P.H.; Koonen-Reemst, A.M.C.B.; Cleutjens, C.B.J.M.; Sussenbach, J.S.
Biochem. Biophys. Res. Commun. 175, 507-514, 1991
A;Title: Complete nucleotide sequence of the high molecular weight human IGF-I mRNA.
A;Reference number: JT0571; MUID:91207342; PMID:2018498
A;Accession: JT0571
A;Molecule type: mRNA
A;Residues: 1-153 <STE>
A;Cross-references: EMBL:X57025; NID:g33007; PIDN:CAA40342.1; PID:g33008
R;Le Bouc, Y.; Dreyer, D.; Jaeger, F.; Binoux, M.; Sondermeyer, P.
FEBS Lett. 196, 108-112, 1986
A;Title: Complete characterization of the human IGF-I nucleotide sequence isolated from a newly constructed adult liver cDNA library.
A;Reference number: A23622; MUID:86108910; PMID:2935423
A;Accession: A23622
A;Molecule type: mRNA
A;Residues: 1-153 <LEB>
A;Cross-references: GB:M27544; NID:g184829; PIDN:AAA52787.1; PID:g306927
R;Rinderknecht, E.; Humbel, R.E.
J. Biol. Chem. 253, 2769-2776, 1978
A;Title: The amino acid sequence of human insulin-like growth factor I and its structural homology with proinsulin.
A;Reference number: A92226; MUID:78130171; PMID:632300
A;Accession: A92226
A;Molecule type: protein
A;Residues: 49-118 <RIN>
R;Karey, K.P.; Marquardt, H.; Sirbasku, D.A.
Blood 74, 1084-1092, 1989
A;Title: Human platelet-derived mitogens. Identification of insulinlike growth factors I and II by purification and N(alpha) amino acid sequence analysis.
A;Reference number: A60483; MUID:89323462; PMID:2752153
A;Accession: A60483
A;Molecule type: protein
A;Residues: 49-53,'X',55-65,'X',67-75 <KAR>

A;Experimental source: platelet lysate
R;Nordqvist Sandberg, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.
submitted to the EMBL Data Library, November 1990
A;Description: Nucleotide sequence of the human fetal brain IGF-1a.
A;Reference number: S30519
A;Accession: S30519
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-153 <NOR>
A;Cross-references: EMBL:X56773; NID:g32989; PIDN:CAA40092.1; PID:g32990
R;Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H.; Sara, V.
Cancer Res. 53, 2475-2478, 1993
A;Title: Characterization of insulin-like growth factor 1 in human primary brain tumors.
A;Reference number: A48960; MUID:93265440; PMID:8495408
A;Accession: A48960
A;Molecule type: mRNA
A;Residues: 1-123,'E',125-132,'E',134-153 <SAN>
A;Cross-references: GB:X56773; GB:S61841; NID:g32989
A;Experimental source: anaplastic oligodendroglioma
A;Note: sequence extracted from NCBI backbone (NCBIN:133056, NCBIP:133057)
A;Note: sequence inconsistent with the nucleotide translation
R;Rall, L.B.; Scott, J.; Bell, G.I.
Meth. Enzymol. 146, 239-248, 1987
A;Title: Human insulin-like growth factor I and II messenger RNA: isolation of complementary DNA and analysis of expression.
A;Reference number: I57044; MUID:88065102; PMID:3683205
A;Accession: I57044
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 24-153 <RAL>
A;Cross-references: GB:M29644; NID:g183119; PIDN:AAA52543.1; PID:g183120
C;Comment: The insulin-like growth factors, isolated from plasma, are structurally and functionally related to insulin but have a much higher growth-promoting activity.
C;Comment: For an alternative splice form, see PIR:IGHU1B.
C;Genetics:
A;Gene: GDB:IGF1
A;Cross-references: GDB:120081; OMIM:147440
A;Map position: 12q22-12q24.1
A;Introns: 21/3; 74/1; 134/3
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor; plasma
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-48/Domain: propeptide #status predicted <PRO>
F;49-118/Product: insulin-like growth factor I #status experimental <MAT>
F;49-77/Domain: insulin chain B-like #status experimental <CHB>
F;78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
F;90-110/Domain: insulin chain A-like #status experimental <CHA>
F;111-118/Domain: D peptide #status experimental <CHD>
F;119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPRO>
F;54-96,66-109,95-100/Disulfide bonds: #status predicted

Query Match	70.6%;	Score 423;	DB 1;	Length 153;
Best Local Similarity	90.7%;	Pred. No. 1.1e-35;		

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  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || ||||||:||||||||||||
Db        109 CAPLKPAKSARSVRAQRHTDMPKTQK 134


RESULT 11
JC2483
insulin-like growth factor-I precursor - goat
C;Species: Capra aegagrus hircus (domestic goat)
C;Date: 16-Mar-1995 #sequence_revision 26-May-1995 #text_change 17-Mar-1999
C;Accession: JC2483
R;Mikawa, S.; Yoshikawa, G.; Aoki, H.; Yamano, Y.; Sakai, H.; Komano, T.
Biosci. Biotechnol. Biochem. 59, 87-92, 1995
A;Title: Dynamic aspects in the expression of the goat insulin-like growth
factor-I (IGF-I) gene: Diversity in transcription and post-transcription.
A;Reference number: JC2483; MUID:95201385; PMID:7765981
A;Accession: JC2483
A;Molecule type: mRNA
A;Residues: 1-154 <MIK>
A;Cross-references: GB:S11378; DDBJ:D26116; DDBJ:D26117; DDBJ:D26118;
DDBJ:D26119
C;Genetics:
A;Introns: 21/3; 75/1; 135/3
C;Superfamily: insulin
F;1-49/Domain: signal sequence #status predicted <SIG>
F;50-119/Product: insulin-like growth factor-I #status predicted <MAT>
F;120-154/Region: E domain

  Query Match             70.6%;  Score 423;  DB 2;  Length 154;
  Best Local Similarity   90.7%;  Pred. No. 1.1e-35;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||||
Db         50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 109

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   ||||||||:|||||||||| ||
Db        110 CAPLKPTKSARSVRAQRHTDMPKAQK 135


RESULT 12
PN0622
insulin-like growth factor Ia precursor - dog (fragment)
C;Species: Canis lupus familiaris (dog)
C;Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 07-May-1999
C;Accession: PN0622
R;Delafontaine, P.; Lou, H.; Harrison, D.G.; Bernstein, K.E.
Gene 130, 305-306, 1993
A;Title: Sequence of a cDNA encoding dog insulin-like growth factor I.
A;Reference number: PN0622; MUID:93366192; PMID:8359700
```

A;Accession: PN0622
A;Molecule type: mRNA
A;Residues: 1-122 <DEL>
C;Comment: This protein is a potent inducer of DNA synthesis in multiple cell types, acting primarily by stimulating cell progression through G1 into S phase.
C;Genetics:
A;Gene: IGFIa
C;Superfamily: insulin
C;Keywords: growth factor
F;20-89/Product: insulin-like growth factor Ia (fragment) #status predicted
<MAT>

Query Match 69.8%; Score 418; DB 2; Length 122;
Best Local Similarity 89.5%; Pred. No. 2.9e-35;
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

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Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||
Db         20 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 79

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:|||||||||| ||
Db         80 CAPLKPAKSARSVRAQRHTDMPKAQK 105
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RESULT 13
IGBO1
insulin-like growth factor IA precursor - bovine (fragment)
N;Alternate names: IGF-I; somatomedin C
C;Species: Bos primigenius taurus (cattle)
C;Date: 31-Mar-1988 #sequence_revision 28-Apr-1995 #text_change 18-Jun-1999
C;Accession: S12672; A25623; S00465
R;Fotsis, T.; Murphy, C.; Gannon, F.
Nucleic Acids Res. 18, 676, 1990
A;Title: Nucleotide sequence of the bovine insulin-like growth factor 1 (IGF-1) and its IGF-1A precursor.
A;Reference number: S12672; MUID:90175014; PMID:2308858
A;Accession: S12672
A;Molecule type: mRNA
A;Residues: 1-153 <FOT>
A;Cross-references: EMBL:X15726; NID:g454; PIDN:CAA33746.1; PID:g455
A;Experimental source: liver
R;Honegger, A.; Humbel, R.E.
J. Biol. Chem. 261, 569-575, 1986
A;Title: Insulin-like growth factors I and II in fetal and adult bovine serum. Purification, primary structures, and immunological cross-reactivities.
A;Reference number: A92585; MUID:86085881; PMID:3941093
A;Accession: A25623
A;Molecule type: protein
A;Residues: 49-118 <HON>
R;Francis, G.L.; Upton, F.M.; Ballard, F.J.; McNeil, K.A.; Wallace, J.C.
Biochem. J. 251, 95-103, 1988
A;Title: Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences and biological activities compared with those of a potent truncated form.
A;Reference number: S00465; MUID:88268820; PMID:3390164
A;Accession: S00465
A;Molecule type: protein

A;Residues: 49-118 <FRA>
A;Experimental source: colostrum
A;Note: a form of IGF-I lacking the first three residues and possessing enhanced biological activity compared with IGF-I was also sequenced
C;Superfamily: insulin
C;Keywords: alternative splicing; colostrum; growth factor; plasma
F;1-20/Domain: signal sequence (fragment) #status predicted <SIG>
F;22-48/Domain: propeptide #status predicted <PRO>
F;49-118/Product: insulin-like growth factor IA (active) #status experimental <MAT>
F;49-77/Domain: insulin B chain-like #status experimental <DOB>
F;78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
F;90-110/Domain: insulin A chain-like #status experimental <DOA>
F;111-118/Domain: D peptide #status experimental <CHD>
F;119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPR>
F;54-96,66-109,95-100/Disulfide bonds: #status predicted

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Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:|||||||||| ||
Db        109 CAPLKPAKSARSVRAQRHTDMPKAQK 134
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RESULT 14
S12825
insulin-like growth factor I precursor - pig
N;Alternate names: somatomedin C
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
C;Accession: S12825; S21488; A34938; A60738
R;Mueller, M.; Brem, G.
Nucleic Acids Res. 18, 364, 1990
A;Title: Nucleotide sequence of porcine insulin-like growth factor I: 5' untranslated region, exons 1 and 2 and mRNA.
A;Reference number: S12825; MUID:90221822; PMID:2326169
A;Accession: S12825
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-153 <MUE>
A;Cross-references: EMBL:X52388
R;Dickson, M.C.; Huskisson, N.S.; Gilmour, R.S.
submitted to the EMBL Data Library, November 1989
A;Description: Porcine Insulin-like growth factor gene: sequence of exon and 5' non-coding region.
A;Reference number: S21488
A;Accession: S21488
A;Molecule type: DNA
A;Residues: 1-21 <DIC>
A;Cross-references: EMBL:X17638; NID:g1995; PIDN:CAA35632.1; PID:g1996

R;Tavakkol, A.; Simmen, F.A.; Simmen, R.C.M.
Mol. Endocrinol. 2, 674-681, 1988
A;Title: Porcine insulin-like growth factor-I (pIGF-I): complementary deoxyribonucleic acid cloning and uterine expression of messenger ribonucleic acid encoding evolutionarily conserved IGF-I peptides.
A;Reference number: A34938; MUID:89096956; PMID:3211153
A;Accession: A34938
A;Molecule type: mRNA
A;Residues: 'Y',21-153 <TAV>
A;Cross-references: GB:M31175
R;Francis, G.L.; Owens, P.C.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.
J. Endocrinol. 122, 681-687, 1989
A;Title: Purification, amino acid sequences and assay cross-reactivities of porcine insulin-like growth factor-I and -II.
A;Reference number: A60738; MUID:90039035; PMID:2809477
A;Accession: A60738
A;Molecule type: protein
A;Residues: 49-117,'X' <FRA>
C;Genetics:
A;Introns: 21/3; 74/1
C;Superfamily: insulin
C;Keywords: growth factor
F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-48/Domain: propeptide #status predicted <PRO>
F;49-153/Product: insulin-like growth factor IA #status experimental <MAT>

Query Match 69.8%; Score 418; DB 2; Length 153;
Best Local Similarity 89.5%; Pred. No. 3.5e-35;
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

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Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:|||||||||| ||
Db        109 CAPLKPAKSARSVRAQRHTDMPKAQK 134
```

RESULT 15
S22878
insulin-like growth factor I precursor, splice form 2 - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 23-Jul-1999
C;Accession: S22878; S07198
R;Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.
J. Mol. Endocrinol. 6, 17-31, 1991
A;Title: The ovine insulin-like growth factor-I gene: characterization, expression and identification of a putative promoter.
A;Reference number: S22877; MUID:91197361; PMID:2015053
A;Accession: S22878
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-138 <DIC>
A;Cross-references: EMBL:X51358
R;Francis, G.L.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.
Endocrinology 124, 1173-1183, 1989

A;Title: Sheep insulin-like growth factors I and II: sequences, activities and assays.
A;Reference number: S07198; MUID:89136887; PMID:2537174
A;Accession: S07198
A;Molecule type: protein
A;Residues: 34-103 <FRA>
A;Experimental source: fetal plasma
C;Genetics:
A;Introns: 5/3; 59/1; 119/3
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor; plasma
F;7-33/Domain: propeptide #status predicted <PRO>
F;34-103/Product: insulin-like growth factor I (active) #status experimental <MAT>
F;34-62/Domain: insulin chain B-like #status predicted <DOB>
F;63-74/Domain: insulin connecting peptide-like #status predicted <CHC>
F;75-95/Domain: insulin chain A-like #status predicted <DOA>
F;96-103/Domain: peptide D #status predicted <CHD>
F;104-138/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>
F;39-81,51-94,80-85/Disulfide bonds: #status predicted

Query Match 68.4%; Score 410; DB 2; Length 138;
Best Local Similarity 88.4%; Pred. No. 2.1e-34;
Matches 76; Conservative 1; Mismatches 9; Indels 0; Gaps 0;

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Db         34 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 93

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
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Job time : 11.7018 secs

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: December 12, 2003, 16:39:37 ; Search time 24.0723 Seconds
(without alignments)
857.591 Million cell updates/sec

Title: US-09-852-261-4
Perfect score: 599
Sequence: 1 GPETLCGAELVDALQFVCGP.....THKKRKLQRRRKGSTLEEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 684280 seqs, 185983659 residues

Total number of hits satisfying chosen parameters: 684280

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA:*
1: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*
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11: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep:*
12: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description

1	599	100.0	111	9	US-09-852-261-4	Sequence 4, Appli
2	537	89.6	133	15	US-10-161-088-2	Sequence 2, Appli
3	512	85.5	111	9	US-09-852-261-6	Sequence 6, Appli
4	494.5	82.6	110	9	US-09-852-261-2	Sequence 2, Appli
5	471	78.6	105	9	US-09-852-261-12	Sequence 12, Appl
6	423	70.6	105	9	US-09-852-261-10	Sequence 10, Appl
7	423	70.6	137	12	US-10-251-661-8	Sequence 8, Appli
8	423	70.6	153	10	US-09-919-497-74	Sequence 74, Appl
9	423	70.6	153	15	US-10-136-639-3	Sequence 3, Appli
10	423	70.6	153	15	US-10-207-655-55	Sequence 55, Appl
11	420	70.1	105	9	US-09-852-261-14	Sequence 14, Appl
12	418	69.8	105	15	US-10-238-114-3	Sequence 3, Appli
13	418	69.8	153	15	US-10-238-114-2	Sequence 2, Appli
14	412.5	68.9	191	9	US-09-921-398-41	Sequence 41, Appl
15	412.5	68.9	191	15	US-10-280-826-41	Sequence 41, Appl
16	342	57.1	953	12	US-10-241-596-14	Sequence 14, Appl
17	341	56.9	70	10	US-09-848-664-29	Sequence 29, Appl
18	341	56.9	70	10	US-09-848-664-30	Sequence 30, Appl
19	341	56.9	70	10	US-09-903-327A-8	Sequence 8, Appli
20	341	56.9	70	11	US-09-858-935B-3	Sequence 3, Appli
21	341	56.9	70	12	US-10-444-326-1	Sequence 1, Appli
22	341	56.9	70	14	US-10-028-410-1	Sequence 1, Appli
23	341	56.9	70	14	US-10-066-009A-1	Sequence 1, Appli
24	341	56.9	70	15	US-10-136-639-1	Sequence 1, Appli
25	341	56.9	70	15	US-10-136-841-7	Sequence 7, Appli
26	341	56.9	118	15	US-10-179-046-14	Sequence 14, Appl
27	341	56.9	155	9	US-09-921-398-39	Sequence 39, Appl
28	341	56.9	155	15	US-10-280-826-39	Sequence 39, Appl
29	341	56.9	510	10	US-09-903-327A-12	Sequence 12, Appl
30	334	55.8	91	12	US-10-323-046-42	Sequence 42, Appl
31	287	47.9	68	12	US-10-339-740-218	Sequence 218, App
32	269	44.9	56	14	US-10-066-009A-5	Sequence 5, Appli
33	223	37.2	180	15	US-10-207-655-57	Sequence 57, Appl
34	221	36.9	156	10	US-09-972-809-7	Sequence 7, Appli
35	221	36.9	180	15	US-10-081-119-38	Sequence 38, Appl
36	221	36.9	180	15	US-10-136-841-2	Sequence 2, Appli
37	221	36.9	180	15	US-10-097-340-145	Sequence 145, App
38	215.5	36.0	46	9	US-09-205-658-138	Sequence 138, App
39	215.5	36.0	46	9	US-09-205-658-139	Sequence 139, App
40	215.5	36.0	46	12	US-09-963-693-138	Sequence 138, App
41	215.5	36.0	46	12	US-09-963-693-139	Sequence 139, App
42	206	34.4	67	14	US-10-066-009A-2	Sequence 2, Appli
43	206	34.4	67	15	US-10-136-639-2	Sequence 2, Appli
44	206	34.4	67	15	US-10-136-841-8	Sequence 8, Appli
45	206	34.4	70	15	US-10-136-841-4	Sequence 4, Appli

ALIGNMENTS

RESULT 1
US-09-852-261-4
; Sequence 4, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
; APPLICANT: GOLDSPINK, GEOFFREY
; APPLICANT: TERENGHI, GIORGIO

```
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4
;   LENGTH: 111
;   TYPE: PRT
;   ORGANISM: Rattus sp.
US-09-852-261-4

  Query Match             100.0%;  Score 599;  DB 9;  Length 111;
  Best Local Similarity   100.0%;  Pred. No. 4.7e-60;
  Matches  111;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
              |||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111


RESULT 2
US-10-161-088-2
; Sequence 2, Application US/10161088
; Publication No. US20030077761A1
; GENERAL INFORMATION:
;  APPLICANT: Parrow, Vendela
;  APPLICANT:  Rosengren, Linda
;  TITLE OF INVENTION: NEW METHODS
;  FILE REFERENCE: 13425-111001
;  CURRENT APPLICATION NUMBER: US/10/161,088
;  CURRENT FILING DATE:  2002-05-31
;  PRIOR APPLICATION NUMBER: SE 0101934-8
;  PRIOR FILING DATE: 2001-06-01
;  NUMBER OF SEQ ID NOS: 3
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 2
;   LENGTH: 133
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-161-088-2

  Query Match             89.6%;  Score 537;  DB 15;  Length 133;
  Best Local Similarity   91.0%;  Pred. No. 5.8e-53;
  Matches  101;  Conservative    2;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||
Db         23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
```

```
                |   ||||:||||||||||||||||||  |||:|| ||||||||||| ||||
Db          83 CAPLKPTKAARSIRAQRHTDMPKTQKSPSLSTNKKTKLQRRRKGSTFEEHK 133


RESULT 3
US-09-852-261-6
; Sequence 6, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 6
;   LENGTH: 111
;   TYPE: PRT
;   ORGANISM: Oryctolagus cuniculus
US-09-852-261-6

  Query Match             85.5%;  Score 512;  DB 9;  Length 111;
  Best Local Similarity   86.5%;  Pred. No. 3.2e-50;
  Matches   96;  Conservative    3;  Mismatches   12;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
              |   || |:|||:|||||||||||||| || ||:|| | |||||||| ||||
Db         61 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 111


RESULT 4
US-09-852-261-2
; Sequence 2, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 2
;   LENGTH: 110
;   TYPE: PRT
;   ORGANISM: Homo sapiens
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US-09-852-261-2

  Query Match   82.6%; Score 494.5; DB 9; Length 110;
  Best Local Similarity   85.6%; Pred. No. 3e-48;
  Matches   95; Conservative   2; Mismatches   13; Indels   1; Gaps   1;

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Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
              |   || |||||:|||||||||||||| || ||:|  | | |||||| ||||
Db         61 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQ-RRKGSTFEEHK 110
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RESULT 5
US-09-852-261-12
; Sequence 12, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
; APPLICANT: GOLDSPINK, GEOFFREY
; APPLICANT: TERENGHI, GIORGIO
; TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
; FILE REFERENCE: 117-351
; CURRENT APPLICATION NUMBER: US/09/852,261
; CURRENT FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: GB 0011278.9
; PRIOR FILING DATE: 2000-05-10
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 12
;   LENGTH: 105
;   TYPE: PRT
;   ORGANISM: Rattus sp.
US-09-852-261-12

  Query Match   78.6%; Score 471; DB 9; Length 105;
  Best Local Similarity   100.0%; Pred. No. 1.3e-45;
  Matches   86; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

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Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              ||||||||||||||||||||||||||
Db         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
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RESULT 6
US-09-852-261-10
; Sequence 10, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
; APPLICANT: GOLDSPINK, GEOFFREY
; APPLICANT: TERENGHI, GIORGIO
; TITLE OF INVENTION: REPAIR OF NERVE DAMAGE

```
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 10
;   LENGTH: 105
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-852-261-10

  Query Match             70.6%;  Score 423;  DB 9;  Length 105;
  Best Local Similarity   90.7%;  Pred. No. 3.4e-40;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:|||||||||||||
Db         61 CAPLKPAKSARSVRAQRHTDMPKTQK 86


RESULT 7
US-10-251-661-8
; Sequence 8, Application US/10251661
; Publication No. US20030166555A1
; GENERAL INFORMATION:
;  APPLICANT: Alberini, Cristina M.
;  APPLICANT:  Bear, Mark F.
;  TITLE OF INVENTION: Methods and Compositions for Regulating
;  TITLE OF INVENTION:  Memory Consolidation
;  FILE REFERENCE: 3499.1001-003
;  CURRENT APPLICATION NUMBER: US/10/251,661
;  CURRENT FILING DATE:  2002-09-20
;  PRIOR APPLICATION NUMBER: 60/193,614
;  PRIOR FILING DATE: 2000-03-31
;  PRIOR APPLICATION NUMBER: PCT/US01/10661
;  PRIOR FILING DATE: 2001-04-02
;  NUMBER OF SEQ ID NOS: 12
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 8
;   LENGTH: 137
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-251-661-8

  Query Match             70.6%;  Score 423;  DB 12;  Length 137;
  Best Local Similarity   90.7%;  Pred. No. 4.6e-40;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||||
Db         33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92
```

```
Qy          61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
               |   || |||||:|||||||||||||
Db          93 CAPLKPAKSARSVRAQRHTDMPKTQK 118


RESULT 8
US-09-919-497-74
; Sequence 74, Application US/09919497
; Patent No. US20020106662A1
; GENERAL INFORMATION:
;  APPLICANT: Mutter, George L.
;  TITLE OF INVENTION: PROGNOSTIC CLASSIFICATION OF ENDOMETRIAL CANCER
;  FILE REFERENCE: B0801/7225
;  CURRENT APPLICATION NUMBER: US/09/919,497
;  CURRENT FILING DATE:  2001-07-31
;  PRIOR APPLICATION NUMBER: US 60/221,735
;  PRIOR FILING DATE: 2000-07-31
;  NUMBER OF SEQ ID NOS: 100
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 74
;   LENGTH: 153
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-919-497-74

  Query Match             70.6%;  Score 423;  DB 10;  Length 153;
  Best Local Similarity   90.7%;  Pred. No. 5.3e-40;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy           1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
               |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db          49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy          61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
               |   || |||||:|||||||||||||
Db         109 CAPLKPAKSARSVRAQRHTDMPKTQK 134


RESULT 9
US-10-136-639-3
; Sequence 3, Application US/10136639
; Publication No. US20030072761A1
; GENERAL INFORMATION:
;  APPLICANT: LeBowitz, Jonathan
;  TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TARGETING PROTEINS ACROSS
THE BLOOD BRAIN
;  TITLE OF INVENTION:  BARRIER
;  FILE REFERENCE: SYM-008
;  CURRENT APPLICATION NUMBER: US/10/136,639
;  CURRENT FILING DATE:  2002-09-06
;  PRIOR APPLICATION NUMBER: US 60/329,650
;  PRIOR FILING DATE: 2001-10-16
;  NUMBER OF SEQ ID NOS: 4
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 3
;   LENGTH: 153
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;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-136-639-3

  Query Match             70.6%;  Score 423;  DB 15;  Length 153;
  Best Local Similarity   90.7%;  Pred. No. 5.3e-40;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:|||||||||||||
Db        109 CAPLKPAKSARSVRAQRHTDMPKTQK 134


RESULT 10
US-10-207-655-55
; Sequence 55, Application US/10207655
; Publication No. US20030118592A1
; GENERAL INFORMATION:
;  APPLICANT: Ledbetter, Jeffrey A.
;  APPLICANT:  Hayden-Ledbetter, Martha S.
;  TITLE OF INVENTION: BINDING DOMAIN-IMMUNOGLOBULIN FUSION PROTEINS
;  FILE REFERENCE: 390069.401C1
;  CURRENT APPLICATION NUMBER: US/10/207,655
;  CURRENT FILING DATE:  2002-07-25
;  NUMBER OF SEQ ID NOS: 426
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 55
;   LENGTH: 153
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-207-655-55

  Query Match             70.6%;  Score 423;  DB 15;  Length 153;
  Best Local Similarity   90.7%;  Pred. No. 5.3e-40;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:|||||||||||||
Db        109 CAPLKPAKSARSVRAQRHTDMPKTQK 134


RESULT 11
US-09-852-261-14
; Sequence 14, Application US/09852261
; Patent No. US20020083477A1
; GENERAL INFORMATION:
;  APPLICANT: GOLDSPINK, GEOFFREY
;  APPLICANT:  TERENGHI, GIORGIO
;  TITLE OF INVENTION: REPAIR OF NERVE DAMAGE
```

```
;  FILE REFERENCE: 117-351
;  CURRENT APPLICATION NUMBER: US/09/852,261
;  CURRENT FILING DATE:  2001-05-10
;  PRIOR APPLICATION NUMBER: GB 0011278.9
;  PRIOR FILING DATE: 2000-05-10
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 14
;   LENGTH: 105
;   TYPE: PRT
;   ORGANISM: Oryctolagus cuniculus
US-09-852-261-14

  Query Match             70.1%;  Score 420;  DB 9;  Length 105;
  Best Local Similarity   89.5%;  Pred. No. 7.4e-40;
  Matches   77;  Conservative    2;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |:|||:||||||||||||||
Db         61 CAPLKPAKAARSVRAQRHTDMPKTQK 86


RESULT 12
US-10-238-114-3
; Sequence 3, Application US/10238114
; Publication No. US20030100073A1
; GENERAL INFORMATION:
;  APPLICANT: Merial
;  APPLICANT:  ANDREONI , Christine Michele
;  TITLE OF INVENTION: IGF-1 AS FELINE VACCINE ADJUVANT, IN PARTICULAR AGAINST
FELINE RETROVIRUS
;  FILE REFERENCE: 454313-3165.1
;  CURRENT APPLICATION NUMBER: US/10/238,114
;  CURRENT FILING DATE:  2002-09-10
;  PRIOR APPLICATION NUMBER: FR 01 11736
;  PRIOR FILING DATE: 2001-09-11
;  PRIOR APPLICATION NUMBER: US 60/318,666
;  PRIOR FILING DATE: 2001-09-12
;  NUMBER OF SEQ ID NOS: 20
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 3
;   LENGTH: 105
;   TYPE: PRT
;   ORGANISM: Felis catus
US-10-238-114-3

  Query Match             69.8%;  Score 418;  DB 15;  Length 105;
  Best Local Similarity   89.5%;  Pred. No. 1.3e-39;
  Matches   77;  Conservative    1;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||||
Db          1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 60
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```
Qy          61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
               |   || |||||:|||||||||| ||
Db          61 CAPLKPAKSARSVRAQRHTDMPKAQK 86


RESULT 13
US-10-238-114-2
; Sequence 2, Application US/10238114
; Publication No. US20030100073A1
; GENERAL INFORMATION:
;  APPLICANT: Merial
;  APPLICANT:  ANDREONI , Christine Michele
;  TITLE OF INVENTION: IGF-1 AS FELINE VACCINE ADJUVANT, IN PARTICULAR AGAINST
FELINE RETROVIRUS
;  FILE REFERENCE: 454313-3165.1
;  CURRENT APPLICATION NUMBER: US/10/238,114
;  CURRENT FILING DATE:  2002-09-10
;  PRIOR APPLICATION NUMBER: FR 01 11736
;  PRIOR FILING DATE: 2001-09-11
;  PRIOR APPLICATION NUMBER: US 60/318,666
;  PRIOR FILING DATE: 2001-09-12
;  NUMBER OF SEQ ID NOS: 20
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
;   LENGTH: 153
;   TYPE: PRT
;   ORGANISM: Felis catus
US-10-238-114-2

  Query Match             69.8%;  Score 418;  DB 15;  Length 153;
  Best Local Similarity   89.5%;  Pred. No. 1.9e-39;
  Matches   77;  Conservative    1;  Mismatches    8;  Indels    0;  Gaps    0;

Qy           1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
               |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db          49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy          61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
               |   || |||||:|||||||||| ||
Db         109 CAPLKPAKSARSVRAQRHTDMPKAQK 134


RESULT 14
US-09-921-398-41
; Sequence 41, Application US/09921398
; Patent No. US20020055169A1
;   GENERAL INFORMATION:
;        APPLICANT: Tekamp-Olson, Patricia
;        TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
;                            PROTEINS IN YEAST
;        NUMBER OF SEQUENCES: 41
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
;             STREET: 3605 Glenwood Ave. Suite 310
;             CITY: Raleigh
;             STATE: NC
```

```
;              COUNTRY: US
;              ZIP: 27622
;         COMPUTER READABLE FORM:
;              MEDIUM TYPE: Floppy disk
;              COMPUTER: IBM PC compatible
;              OPERATING SYSTEM: PC-DOS/MS-DOS
;              SOFTWARE: PatentIn Release #1.0, Version #1.30
;         CURRENT APPLICATION DATA:
;              APPLICATION NUMBER: US/09/921,398
;              FILING DATE: 02-Aug-2001
;              CLASSIFICATION: <Unknown>
;         ATTORNEY/AGENT INFORMATION:
;              NAME: Spruill, W. Murray
;              REGISTRATION NUMBER: 32,943
;              REFERENCE/DOCKET NUMBER: 5784-4
;         TELECOMMUNICATION INFORMATION:
;              TELEPHONE: 919 420 2202
;              TELEFAX: 919 881 3175
;    INFORMATION FOR SEQ ID NO: 41:
;         SEQUENCE CHARACTERISTICS:
;              LENGTH: 191 amino acids
;              TYPE: amino acid
;              TOPOLOGY: linear
;         MOLECULE TYPE: protein
;         SEQUENCE DESCRIPTION: SEQ ID NO: 41:
US-09-921-398-41

  Query Match             68.9%;  Score 412.5;  DB 9;  Length 191;
  Best Local Similarity   89.7%;  Pred. No. 1e-38;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    1;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CVRCKPTKSA-RSIRAQRHTDMPKTQK 86
              |   || ||| ||:|||||||||||||
Db        146 CAPLKPAKSAKRSVRAQRHTDMPKTQK 172


RESULT 15
US-10-280-826-41
; Sequence 41, Application US/10280826
; Publication No. US20030077831A1
;   GENERAL INFORMATION:
;         APPLICANT: Tekamp-Olson, Patricia
;         TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
;                             PROTEINS IN YEAST
;         NUMBER OF SEQUENCES: 41
;         CORRESPONDENCE ADDRESS:
;              ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
;              STREET: 3605 Glenwood Ave. Suite 310
;              CITY: Raleigh
;              STATE: NC
;              COUNTRY: US
;              ZIP: 27622
;         COMPUTER READABLE FORM:
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```
;               MEDIUM TYPE: Floppy disk
;               COMPUTER: IBM PC compatible
;               OPERATING SYSTEM: PC-DOS/MS-DOS
;               SOFTWARE: PatentIn Release #1.0, Version #1.30
;          CURRENT APPLICATION DATA:
;               APPLICATION NUMBER: US/10/280,826
;               FILING DATE: 25-Oct-2002
;               CLASSIFICATION: <Unknown>
;          PRIOR APPLICATION DATA:
;               APPLICATION NUMBER: US/08/989,251
;               FILING DATE: <Unknown>
;          ATTORNEY/AGENT INFORMATION:
;               NAME: Spruill, W. Murray
;               REGISTRATION NUMBER: 32,943
;               REFERENCE/DOCKET NUMBER: 5784-4
;          TELECOMMUNICATION INFORMATION:
;               TELEPHONE: 919 420 2202
;               TELEFAX: 919 881 3175
;     INFORMATION FOR SEQ ID NO: 41:
;          SEQUENCE CHARACTERISTICS:
;               LENGTH: 191 amino acids
;               TYPE: amino acid
;               TOPOLOGY: linear
;          MOLECULE TYPE: protein
;          SEQUENCE DESCRIPTION: SEQ ID NO: 41:
US-10-280-826-41

  Query Match             68.9%;  Score 412.5;  DB 15;  Length 191;
  Best Local Similarity   89.7%;  Pred. No. 1e-38;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    1;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||
Db         86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy         61 CVRCKPTKSA-RSIRAQRHTDMPKTQK 86
              |   || ||| ||:||||||||||||||
Db        146 CAPLKPAKSAKRSVRAQRHTDMPKTQK 172


Search completed: December 12, 2003, 16:51:59
Job time : 24.0723 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: December 12, 2003, 16:34:01 ; Search time 28.753 Seconds
(without alignments)
996.203 Million cell updates/sec

Title: US-09-852-261-4
Perfect score: 599
Sequence: 1 GPETLCGAELVDALQFVCGP.....THKKRKLQRRRKGSTLEEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 830525 seqs, 258052604 residues

Total number of hits satisfying chosen parameters: 830525

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL_23:*
1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_rvirus:*
16: sp_bacteriap:*
17: sp_archeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description

1	505	84.3	165	11	Q8CAR0	Q8car0 mus musculu
2	486.5	81.2	139	4	Q13429	Q13429 homo sapien
3	443	74.0	127	11	P97899	P97899 rattus sp.
4	440	73.5	153	11	Q8C4U6	Q8c4u6 mus musculu
5	423	70.6	130	4	Q9NP10	Q9np10 homo sapien
6	423	70.6	137	4	Q14620	Q14620 homo sapien
7	418	69.8	133	6	Q9N1C1	Q9n1c1 bos taurus
8	402	67.1	139	6	P79167	P79167 equus cabal
9	384	64.1	153	13	O93380	O93380 meleagris g
10	362.5	60.5	161	13	Q91230	Q91230 oncorhynchu
11	362	60.4	117	13	Q91476	Q91476 salmo salar
12	362	60.4	178	13	Q9IBI0	Q9ibi0 cyprinus ca
13	361	60.3	145	13	Q91475	Q91475 salmo salar
14	361	60.3	155	13	Q91162	Q91162 oncorhynchu
15	361	60.3	188	13	P81268	P81268 oncorhynchu
16	361	60.3	188	13	Q91965	Q91965 oncorhynchu
17	360	60.1	116	13	Q91161	Q91161 oncorhynchu
18	360	60.1	149	13	Q91231	Q91231 oncorhynchu
19	359	59.9	161	13	Q90VV9	Q90vv9 brachydanio
20	355	59.3	186	13	O93527	O93527 paralichthy
21	351.5	58.7	185	13	O57436	O57436 paralichthy
22	351	58.6	117	13	Q9I9I4	Q9i9i4 ctenopharyn
23	351	58.6	159	13	O93607	O93607 paralichthy
24	348	58.1	161	13	Q98SR6	Q98sr6 megalobrama
25	347	57.9	161	13	Q9PWK2	Q9pwk2 carassius a
26	347	57.9	186	13	Q9PSX5	Q9psx5 paralichthy
27	345	57.6	182	13	O42289	O42289 oreochromis
28	344	57.4	161	13	Q9YI82	Q9yi82 carassius a
29	344	57.4	182	13	O73720	O73720 oreochromis
30	344	57.4	182	13	P79824	P79824 oreochromis
31	332.5	55.5	185	13	Q9YI57	Q9yi57 acanthopagr
32	326	54.4	184	13	O42336	O42336 myoxocephal
33	325.5	54.3	69	6	O02807	O02807 bubalus bub
34	310	51.8	66	6	Q9N1S6	Q9n1s6 capreolus c
35	279.5	46.7	126	13	Q91442	Q91442 squalus aca
36	267	44.6	57	6	Q28236	Q28236 cervus elap
37	255.5	42.7	215	13	O73721	O73721 tilapia sp.
38	255.5	42.7	215	13	O42429	O42429 lates calca
39	252	42.1	62	13	Q9IAA0	Q9iaa0 carassius a
40	240	40.1	207	13	Q90XD0	Q90xd0 cyprinus ca
41	238	39.7	217	13	Q90WW4	Q90ww4 xenopus lae
42	233	38.9	212	13	Q8JIE4	Q8jie4 brachydanio
43	228	38.1	149	6	Q9MYX4	Q9myx4 bos indicus
44	226	37.7	197	13	Q9PUD0	Q9pud0 brachydanio
45	226	37.7	197	13	Q8UUI9	Q8uui9 brachydanio

ALIGNMENTS

RESULT 1
Q8CAR0
ID Q8CAR0 PRELIMINARY; PRT; 165 AA.
AC Q8CAR0;
DT 01-MAR-2003 (TrEMBLrel. 23, Created)
DT 01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)

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DE   Unknown EST.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C57BL/6J; TISSUE=Thymus;
RX   MEDLINE=22354683; PubMed=12466851;
RA   The FANTOM Consortium,
RA   the RIKEN Genome Exploration Research Group Phase I & II Team;
RT   "Analysis of the mouse transcriptome based on functional annotation of
RT   60,770 full-length cDNAs.";
RL   Nature 420:563-573(2002).
DR   EMBL; AK038119; BAC29934.1; -.
SQ   SEQUENCE   165 AA;  18473 MW;  2CE0D3DA981C93F8 CRC64;

  Query Match             84.3%;  Score 505;  DB 11;  Length 165;
  Best Local Similarity   91.3%;  Pred. No. 2.3e-52;
  Matches   95;  Conservative    2;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||| |||||||||||||||||||||||||||||
Db         33 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKG 104
              |   ||||:||||||||||||||||  |||:|| ||||||||
Db         93 CAPLKPTKAARSIRAQRHTDMPKTQKSPSLSTNKKTKLQRRRKG 136


RESULT 2
Q13429
ID   Q13429      PRELIMINARY;      PRT;   139 AA.
AC   Q13429;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE   Insulin-like growth factor-I (Fragment).
GN   IGF-I.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=95237119; PubMed=7720641;
RA   Chew S.L., Lavender P., Clark A.J., Ross R.J.;
RT   "An alternatively spliced human insulin-like growth factor-I
RT   transcript with hepatic tissue expression that diverts away from the
RT   mitogenic IBE1 peptide.";
RL   Endocrinology 136:1939-1944(1995).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; U40870; AAA96152.1; -.
DR   HSSP; P01343; 2GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
```

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DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
SQ   SEQUENCE   139 AA;  15611 MW;  A62271872CA29DE4 CRC64;

  Query Match             81.2%;  Score 486.5;  DB 4;  Length 139;
  Best Local Similarity   84.7%;  Pred. No. 3.2e-50;
  Matches   94;  Conservative    2;  Mismatches   14;  Indels    1;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         30 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 89

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
              |   || |||||:|||||||||||||| || ||:|  | | |||||| || |
Db         90 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQ-RRKGSTFEERK 139


RESULT 3
P97899
ID   P97899      PRELIMINARY;      PRT;   127 AA.
AC   P97899;
DT   01-MAY-1997 (TrEMBLrel. 03, Created)
DT   01-MAY-1997 (TrEMBLrel. 03, Last sequence update)
DT   01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE   Insulin-like growth factor I.
OS   Rattus sp.
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10118;
RN   [1]
RP   PARTIAL SEQUENCE FROM N.A.
RX   MEDLINE=87222423; PubMed=3034909;
RA   Shimatsu A., Rotwein P.;
RT   "Mosaic evolution of the insulin-like growth factors.";
RL   J. Biol. Chem. 262:7894-7900(1987).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=91103966; PubMed=1368571;
RA   Kato H., Okoshi A., Miura Y., Noguchi T.;
RT   "A new cDNA clone relating to larger molecular species of rat insulin-
RT   like growth factor-I mRNA.";
RL   Agric. Biol. Chem. 54:1599-1601(1990).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; D00698; BAA00604.1; -.
DR   HSSP; P01343; 2GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   CHAIN        23     92       POTENTIAL.
SQ   SEQUENCE   127 AA;  14106 MW;  104E126BCFCA5CB7 CRC64;

  Query Match             74.0%;  Score 443;  DB 11;  Length 127;
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```
  Best Local Similarity   95.3%;  Pred. No. 4.5e-45;
  Matches   82;  Conservative    0;  Mismatches    4;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Db         23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   ||||||||||||||||||||||
Db         83 CAPLKPTKSARSIRAQRHTDMPKTQK 108


RESULT 4
Q8C4U6
ID   Q8C4U6      PRELIMINARY;      PRT;   153 AA.
AC   Q8C4U6;
DT   01-MAR-2003 (TrEMBLrel. 23, Created)
DT   01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
DT   01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE   Unknown EST.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C57BL/6J; TISSUE=Cerebellum;
RX   MEDLINE=22354683; PubMed=12466851;
RA   The FANTOM Consortium,
RA   the RIKEN Genome Exploration Research Group Phase I & II Team;
RT   "Analysis of the mouse transcriptome based on functional annotation of
RT   60,770 full-length cDNAs.";
RL   Nature 420:563-573(2002).
DR   EMBL; AK081019; BAC38117.1; -.
SQ   SEQUENCE   153 AA;  17093 MW;  967596AEAC0CA387 CRC64;

  Query Match             73.5%;  Score 440;  DB 11;  Length 153;
  Best Local Similarity   94.2%;  Pred. No. 1.3e-44;
  Matches   81;  Conservative    1;  Mismatches    4;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   ||||:||||||||||||||||||
Db        109 CAPLKPTKAARSIRAQRHTDMPKTQK 134


RESULT 5
Q9NP10
ID   Q9NP10      PRELIMINARY;      PRT;   130 AA.
AC   Q9NP10;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE   IGF1 protein precursor.
```

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GN   IGF1.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=88065102; PubMed=3683205;
RA   Rall L.B., Scott J., Bell G.I.;
RT   "Human insulin-like growth factor I and II messenger RNA: isolation of
RT   complementary DNA and analysis of expression.";
RL   Meth. Enzymol. 146:239-248(1987).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; M29644; AAA52543.1; -.
DR   HSSP; P01343; 2GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   SIGNAL        1     25       POTENTIAL.
FT   CHAIN        26     95       POTENTIAL.
SQ   SEQUENCE   130 AA;  14406 MW;  970FBAAECFA0352D CRC64;

  Query Match             70.6%;  Score 423;  DB 4;  Length 130;
  Best Local Similarity   90.7%;  Pred. No. 1.1e-42;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||
Db         26 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 85

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:||||||||||||||
Db         86 CAPLKPAKSARSVRAQRHTDMPKTQK 111


RESULT 6
Q14620
ID   Q14620      PRELIMINARY;      PRT;   137 AA.
AC   Q14620;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE   Insulin-like growth factor I precursor.
GN   IGF1.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=91187000; PubMed=2082190;
RA   Tobin G., Yee D., Brunner N., Rotwein P.;
RT   "A novel human insulin-like growth factor I messenger RNA is expressed
```

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RT   in normal and tumor cells.";
RL   Mol. Endocrinol. 4:1914-1920(1990).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; M37484; AAA52789.1; -.
DR   HSSP; P01343; 2GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   SIGNAL        1     32       POTENTIAL.
FT   CHAIN        33    137       INSULIN-LIKE GROWTH FACTOR I.
SQ   SEQUENCE   137 AA;  15177 MW;  BFCC0D11E32AB75D CRC64;

  Query Match             70.6%;  Score 423;  DB 4;  Length 137;
  Best Local Similarity   90.7%;  Pred. No. 1.2e-42;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || ||||||:|||||||||||||
Db         93 CAPLKPAKSARSVRAQRHTDMPKTQK 118


RESULT 7
Q9N1C1
ID   Q9N1C1      PRELIMINARY;      PRT;   133 AA.
AC   Q9N1C1;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE   Insulin-like growth factor I (Fragment).
GN   IGF1.
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Lien S., Karlsen A., Klemetsdal G., Vage D.I., Olsaker I.,
RA   Klungland H., Aasland M., Heringstad B., Ruane J., Gomez-Raya L.;
RT   "A primary screen of the bovine genome for quantitative trait loci
RT   affecting twinning rate.";
RL   Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF210387; AAF72409.1; -.
DR   EMBL; AF210385; AAF72409.1; JOINED.
DR   EMBL; AF210386; AAF72409.1; JOINED.
DR   HSSP; P01343; 2GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
```

```
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
FT   NON_TER       1      1
SQ   SEQUENCE   133 AA;  14674 MW;  A6991DBCB75C103B CRC64;

  Query Match             69.8%;  Score 418;  DB 6;  Length 133;
  Best Local Similarity   89.5%;  Pred. No. 4.6e-42;
  Matches   77;  Conservative    1;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         29 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 88

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:|||||||||| ||
Db         89 CAPLKPAKSARSVRAQRHTDMPKAQK 114


RESULT 8
P79167
ID   P79167      PRELIMINARY;      PRT;   139 AA.
AC   P79167;
DT   01-MAY-1997 (TrEMBLrel. 03, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE   Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C)
DE   (Fragments).
GN   IGF1.
OS   Equus caballus (Horse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX   NCBI_TaxID=9796;
RN   [1]
RP   SEQUENCE OF 1-122 FROM N.A.
RC   TISSUE=LIVER;
RX   MEDLINE=97013467; PubMed=8860303;
RA   Otte K., Rozell B., Gessbo A., Engstrom W.;
RT   "Cloning and sequencing of an equine insulin-like growth factor I cDNA
RT   and its expression in fetal and adult tissues.";
RL   Gen. Comp. Endocrinol. 102:11-15(1996).
RN   [2]
RP   SEQUENCE OF 123-139 FROM N.A.
RA   Nixon A.J., Toland B.D., Sandell L.J.;
RL   Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC   -!- SUBCELLULAR LOCATION: SECRETED.
CC   -!- ALTERNATIVE PRODUCTS: TWO ISOFORMS; ISOFORM IGF-IA (P51458) AND
CC       ISOFORM IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING
CC       (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; U28070; AAA68952.1; -.
DR   EMBL; U85271; AAB47484.1; -.
DR   HSSP; P01343; 2GF1.
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DR   InterPro; IPR004825; Ins/IGF/relax.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     48       BY SIMILARITY.
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR IB.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119   >139       E PEPTIDE.
FT   NON_CONS    122    123
FT   DISULFID     54     96       BY SIMILARITY.
FT   DISULFID     66    109       BY SIMILARITY.
FT   DISULFID     95    100       BY SIMILARITY.
FT   NON_TER     139    139
SQ   SEQUENCE   139 AA;  15612 MW;  CDC0E8F19C261A2C CRC64;

  Query Match             67.1%;  Score 402;  DB 6;  Length 139;
  Best Local Similarity   76.7%;  Pred. No. 3.9e-40;
  Matches   79;  Conservative    2;  Mismatches   10;  Indels   12;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRK 103
              |   || |||||:|             || ||:|| |||||||
Db        109 CAPLKPAKSARSVR------------YQPPSTNKKTKLQRRRK 139


RESULT 9
O93380
ID   O93380      PRELIMINARY;      PRT;   153 AA.
AC   O93380;
DT   01-NOV-1998 (TrEMBLrel. 08, Created)
DT   01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
DT   01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE   Insulin-like growth factor-I precursor.
GN   IGFI.
OS   Meleagris gallopavo (Common turkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Meleagrididae; Meleagris.
OX   NCBI_TaxID=9103;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Big 6 ML Tom; TISSUE=Liver;
RA   Czerwinski S.M., Ashwell C.M., McMurtry J.P.;
RT   "Cloning of turkey insulin-like growth factor-I (IGF-I).";
RL   Submitted (JUN-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF074980; AAC26006.1; -.
DR   HSSP; P01343; 2GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
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DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   SIGNAL        1     48       POTENTIAL.
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR-I.
SQ   SEQUENCE   153 AA;  17295 MW;  5AF1E5B8D13C70B5 CRC64;

  Query Match             64.1%;  Score 384;  DB 13;  Length 153;
  Best Local Similarity   69.8%;  Pred. No. 6.1e-38;
  Matches   74;  Conservative    7;  Mismatches   17;  Indels    8;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| |||||:||| |||| ||    ||||||||:||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFSKPTGYGSSSRRLHHKGIVDECCFQSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGST 106
              |   || |||||:|||||||||| |        |:  |:   :|:|
Db        109 CAPIKPPKSARSVRAQRHTDMPKAQ--------KELHLKNTSRGNT 146


RESULT 10
Q91230
ID   Q91230      PRELIMINARY;      PRT;   161 AA.
AC   Q91230;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE   Insulin-like growth factor-I.
GN   IGF-I.
OS   Oncorhynchus tschawytscha (Chinook salmon) (King salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=74940;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Big Qualicum River; TISSUE=Liver;
RX   MEDLINE=93247592; PubMed=7683374;
RA   Wallis A.E., Devlin R.H.;
RT   "Duplicate insulin-like growth factor-I genes in salmon display
RT   alternative splicing pathways.";
RL   Mol. Endocrinol. 7:409-422(1993).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Big Qualicum River; TISSUE=Liver;
RA   Devlin R.H.;
RL   Submitted (OCT-1994) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; U15961; AAA67267.1; -.
DR   HSSP; P01343; 2GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
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DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   161 AA;  17763 MW;  A5A85D121377BF67 CRC64;

  Query Match             60.5%;  Score 362.5;  DB 13;  Length 161;
  Best Local Similarity   66.4%;  Pred. No. 2.4e-35;
  Matches   71;  Conservative   11;  Mismatches   22;  Indels    3;  Gaps    2;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| |||||| |||||:||| || | ||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLS--THKKRKLQRRRKGS 105
              |   |  |:|||:||||||||||:| | :|||  :|   |   ::  |
Db        105 CAPVKSGKAARSVRAQRHTDMPRTPK-KPLSGNSHTSCKEVHQKNSS 150


RESULT 11
Q91476
ID   Q91476      PRELIMINARY;      PRT;   117 AA.
AC   Q91476;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE   Insulin-like growth factor I precursor (Fragment).
OS   Salmo salar (Atlantic salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
OX   NCBI_TaxID=8030;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93024477; PubMed=1406698;
RA   Duguay S.J., Park L.K., Samadpour M., Dickhoff W.W.;
RT   "Nucleotide sequence and tissue distribution of three insulin-like
RT   growth factor I prohormones in salmon.";
RL   Mol. Endocrinol. 6:1202-1210(1992).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; M81904; AAA18212.1; -.
DR   HSSP; P01343; 2GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   NON_TER       1      1
FT   SIGNAL       <1     18       POTENTIAL.
FT   CHAIN        19     88       INSULIN-LIKE GROWTH FACTOR I.
SQ   SEQUENCE   117 AA;  12867 MW;  A97666EE2F526EAC CRC64;

  Query Match             60.4%;  Score 362;  DB 13;  Length 117;
  Best Local Similarity   69.7%;  Pred. No. 2e-35;
  Matches   69;  Conservative    9;  Mismatches   19;  Indels    2;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| |||||| |||||:||| || | ||:   ||||||||:||:|||||||
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Db         19 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 78

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLS--THKKRK 97
              |   |  |:|||:||||||||||:| |:  |   ||  |:
Db         79 CAPVKSGKAARSVRAQRHTDMPRTPKNLYLGIVTHLARR 117


RESULT 12
Q9IBI0
ID   Q9IBI0      PRELIMINARY;      PRT;   178 AA.
AC   Q9IBI0;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE   Insulin-like growth factor I subtype Ea2.
GN   IGF-IEA2.
OS   Cyprinus carpio (Common carp).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC   Cyprinidae; Cyprinus.
OX   NCBI_TaxID=7962;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=96241923; PubMed=8680527;
RA   Liang Y.H., Cheng C.H., Chan K.M.;
RT   "Insulin-like growth factor IEa2 is the predominantly expressed form
RT   of IGF in common carp (Cyprinus carpio).";
RL   Mol. Mar. Biol. Biotechnol. 5:145-152(1996).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; S82374; AAB37702.2; -.
DR   HSSP; P01343; 2GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   178 AA;  19687 MW;  7075A34FF379C459 CRC64;

  Query Match             60.4%;  Score 362;  DB 13;  Length 178;
  Best Local Similarity   62.7%;  Pred. No. 3e-35;
  Matches   69;  Conservative   13;  Mismatches   24;  Indels    4;  Gaps    1;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| |||||| |||||:||| || | ||:   ||||||||:||:|||||||
Db         62 GPETLCGAELVDTLQFVCGDRGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 121

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK----SQPLSTHKKRKLQRRRKGST 106
              |   || |: ||:||||||| |:| |     |  |::|:   :   :|:|
Db        122 CAPVKPGKTPRSVRAQRHTDSPRTAKKPLPGQSHSSYKEVHQKNSSRGNT 171


RESULT 13
Q91475
ID   Q91475      PRELIMINARY;      PRT;   145 AA.
AC   Q91475;
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DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE   Insulin-like growth factor I precursor (Fragment).
OS   Salmo salar (Atlantic salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
OX   NCBI_TaxID=8030;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93024477; PubMed=1406698;
RA   Duguay S.J., Park L.K., Samadpour M., Dickhoff W.W.;
RT   "Nucleotide sequence and tissue distribution of three insulin-like
RT   growth factor I prohormones in salmon.";
RL   Mol. Endocrinol. 6:1202-1210(1992).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; M81904; AAA18211.1; -.
DR   HSSP; P01343; 2GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   NON_TER       1      1
FT   SIGNAL       <1     18       POTENTIAL.
FT   CHAIN        19    >88       INSULIN-LIKE GROWTH FACTOR I.
FT   NON_TER     145    145
SQ   SEQUENCE   145 AA;  15885 MW;  3D94EDF477268FC4 CRC64;

  Query Match             60.3%;  Score 361;  DB 13;  Length 145;
  Best Local Similarity   67.3%;  Pred. No. 3.2e-35;
  Matches   68;  Conservative    9;  Mismatches   24;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| |||||| |||||:||| || | ||:   ||||||||:||:|||||||
Db         19 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 78

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRR 101
              |   |  |:|||:||||||||||:| |      :  |  :||
Db         79 CAPVKSGKAARSVRAQRHTDMPRTPKVSTAVQNVDRGTERR 119


RESULT 14
Q91162
ID   Q91162      PRELIMINARY;      PRT;   155 AA.
AC   Q91162;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE   Insulin-like growth factor I precursor (Fragment).
OS   Oncorhynchus kisutch (Coho salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
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OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8019;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=90190659; PubMed=2628735;
RA   Cao Q.P, Duguay S.J, Plisetskaya E., Steiner D.F., Chan S.J.;
RT   "Nucleotide sequence and growth hormone regulated expression of salmon
RT   insulin-like growth factor I mRNA.";
RL   Mol. Endocrinol. 3:2005-2010(1989).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93024477; PubMed=1406698;
RA   Duguay S.J, Park L.K., Samadpour M., Dickhoff W.W.;
RT   "Nucleotide sequence and tissue distribution of three insulin-like
RT   growth factor I prohormones in salmon.";
RL   Mol. Endocrinol. 6:1202-1210(1992).
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; M81913; AAA49413.1; -.
DR   HSSP; P01343; 2GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Signal.
FT   NON_TER       1      1
FT   SIGNAL       <1     18       POTENTIAL.
FT   CHAIN        19    >88       INSULIN-LIKE GROWTH FACTOR I.
FT   CONFLICT     73     73       R -> X (IN REF. 1).
FT   NON_TER     155    155
SQ   SEQUENCE   155 AA;  16968 MW;  022FD3CA39CA3160 CRC64;

  Query Match             60.3%;  Score 361;  DB 13;  Length 155;
  Best Local Similarity   67.3%;  Pred. No. 3.5e-35;
  Matches   68;  Conservative    9;  Mismatches   24;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| |||||| |||||:||| || | ||:   ||||||||:||:|||||||
Db         19 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 78

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRR 101
              |   |  |:|||:||||||||||:| |      :  |  :||
Db         79 CAPVKSGKAARSVRAQRHTDMPRTPKVSTAVQNVDRGTERR 119


RESULT 15
P81268
ID   P81268      PRELIMINARY;      PRT;   188 AA.
AC   P81268;
DT   01-AUG-1998 (TrEMBLrel. 07, Created)
DT   01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
DT   01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE   Insulin-like growth factor I precursor.
GN   IGF-I.1.
OS   Oncorhynchus keta (Chum salmon).
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OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8018;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Kavsan V.M., Koval A.P., Grebenjuk V.A., Chan S.J., Steiner D.F.,
RA   Roberts C.T. Jr., Leroith D.;
RT   "Structure of the Chum Salmon Insulin-Like Growth Factor I Gene.";
RL   DNA Cell Biol. 11:729-737(1993).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=94296559; PubMed=8024699;
RA   Kavsan V.M., Grebenjuk V.A., Koval A.P., Skorokhod A.S.,
RA   Roberts C.T.Jr., Leroith D.;
RT   "Isolation of a second nonallelic insulin-like growth factor I gene
RT   from the salmon genome.";
RL   DNA Cell Biol. 13:555-559(1994).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95032736;
RA   Koval A., Kulik V., Duguay S., Plisetskaya E., Adamo M.L.,
RA   Roberts C.T.Jr., Leroith D., Kavsan V.;
RT   "Characterization of a salmon insulin-like growth factor I promoter.";
RL   DNA Cell Biol. 13:1057-1062(1994).
RN   [4]
RP   SEQUENCE FROM N.A.
RA   Gebenjuk V.A., Skorokhod A.S., Anoprienko O.V., Koval A.P.;
RL   Submitted (MAY-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR   EMBL; AF063216; AAC18833.1; -.
DR   HSSP; P01343; 2GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   PRINTS; PR00277; INSULINB.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
SQ   SEQUENCE   188 AA;  20792 MW;  F4CEB6D05E0F24B8 CRC64;

  Query Match             60.3%;  Score 361;  DB 13;  Length 188;
  Best Local Similarity   67.3%;  Pred. No. 4.2e-35;
  Matches   68;  Conservative    9;  Mismatches   24;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||| |||||| |||||:||| || | ||:   ||||||||:||:|||||||
Db         45 GPETLCGAELVDTLQFVCGERGFYFSKPTGYGPSSRRSHNRGIVDECCFQSCELRRLEMY 104

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRR 101
              |   |  |:|||:||||||||:| |      :  |  :||
Db        105 CAPVKSGKAARSVRAQRHTDMPRTPKISTAVQNVDRGTERR 145


Search completed: December 12, 2003, 16:39:30
Job time : 28.753 secs
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GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: December 12, 2003, 16:33:21 ; Search time 7.68976 Seconds
(without alignments)
678.820 Million cell updates/sec

Title: US-09-852-261-4
Perfect score: 599
Sequence: 1 GPETLCGAELVDALQFVCGP.....THKKRKLQRRRKGSTLEEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 127863 seqs, 47026705 residues

Total number of hits satisfying chosen parameters: 127863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_41:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	537	89.6	133	1	IGFB_MOUSE	P05018 mus musculu
2	536	89.5	181	1	IGFB_RAT	P08024 rattus norv
3	512	85.5	143	1	IGF1_RABIT	Q95222 oryctolagus
4	464	77.5	195	1	IGFB_HUMAN	P05019 homo sapien
5	443	74.0	153	1	IGFA_RAT	P08025 rattus norv
6	440	73.5	127	1	IGFA_MOUSE	P05017 mus musculu
7	423	70.6	130	1	IGF1_CAVPO	P17647 cavia porce
8	423	70.6	153	1	IGFA_HUMAN	P01343 homo sapien
9	423	70.6	154	1	IGF1_CAPHI	P51457 capra hircu
10	418	69.8	122	1	IGF1_CANFA	P33712 canis famil
11	418	69.8	153	1	IGF1_PIG	P16545 sus scrofa
12	418	69.8	154	1	IGF1_BOVIN	P07455 bos taurus
13	410	68.4	154	1	IGF1_SHEEP	P10763 ovis aries
14	384	64.1	124	1	IGF1_COTJA	P51462 coturnix co
15	384	64.1	153	1	IGF1_CHICK	P18254 gallus gall
16	376.5	62.9	153	1	IGF1_XENLA	P16501 xenopus lae
17	369	61.6	81	1	IGF1_SUNMU	Q28933 suncus muri

18	362	60.4	161	1	IGFA_CYPCA	Q90325 cyprinus ca
19	362	60.4	161	1	IGFB_CYPCA	Q90326 cyprinus ca
20	361	60.3	176	1	IGF1_ONCKI	P17085 oncorhynchu
21	359	59.9	176	1	IGF1_ONCMY	Q02815 oncorhynchu
22	358	59.8	122	1	IGF1_HORSE	P51458 equus cabal
23	249	41.6	214	1	IGF2_ONCMY	Q02816 oncorhynchu
24	233	38.9	155	1	IGF2_BOVIN	P07456 bos taurus
25	232	38.7	179	1	IGF2_SHEEP	P10764 ovis aries
26	224	37.4	181	1	IGF2_HORSE	P51459 equus cabal
27	223	37.2	139	1	IGF_MYXGL	P22618 myxine glut
28	222	37.1	181	1	IGF2_PIG	P23695 sus scrofa
29	221.5	37.0	129	1	IGF2_MUSVI	P41694 mustela vis
30	221	36.9	180	1	IGF2_HUMAN	P01344 homo sapien
31	216	36.1	128	1	IGF2_CAVPO	Q08279 cavia porce
32	212	35.4	180	1	IGF2_MOUSE	P09535 mus musculu
33	209.5	35.0	180	1	IGF2_RAT	P01346 rattus norv
34	203	33.9	66	1	IGF2_CHICK	P33717 gallus gall
35	152.5	25.5	50	1	INS_MYOSC	P07453 myoxocephal
36	151.5	25.3	51	1	INS_GADCA	P01336 gadus calla
37	150	25.0	59	1	INS_HYDCO	P09536 hydrolagus
38	148.5	24.8	51	1	INS1_BATSP	P01337 batrachoidi
39	147	24.5	50	1	INS2_BATSP	P01338 batrachoidi
40	146	24.4	51	1	INS_ZAODH	P12708 zaocys dhum
41	145	24.2	51	1	INS_ALLMI	P12703 alligator m
42	143	23.9	51	1	INS_ANSAN	P07454 anser anser
43	143	23.9	51	1	INS_CROAT	P01334 crotalus at
44	142	23.7	51	1	INS_CHIBR	P01327 chinchilla
45	142	23.7	51	1	INS_TRASC	P31887 trachemys s

ALIGNMENTS

```
RESULT 1
IGFB_MOUSE
ID   IGFB_MOUSE     STANDARD;      PRT;   133 AA.
AC   P05018;
DT   13-AUG-1987 (Rel. 05, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
GN   IGF1 OR IGF-1.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=87040760; PubMed=3774549;
RA   Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;
RT   "Sequences of liver cDNAs encoding two different mouse insulin-like
RT   growth factor I precursors.";
RL   Nucleic Acids Res. 14:7873-7882(1986).
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
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CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IB;
CC         IsoId=P05018-1; Sequence=Displayed;
CC       Name=IGF-IA;
CC         IsoId=P05017-1; Sequence=External;
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X04482; CAA28170.1; -.
DR   HSSP; P01343; 1GF1.
DR   MGD; MGI:96432; Igf1.
DR   GO; GO:0009887; P:organogenesis; IMP.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT   SIGNAL        1     22
FT   CHAIN        23     92       INSULIN-LIKE GROWTH FACTOR IB.
FT   DOMAIN       23     51       B.
FT   DOMAIN       52     63       C.
FT   DOMAIN       64     84       A.
FT   DOMAIN       85     92       D.
FT   PROPEP       93    133       E PEPTIDE.
FT   DISULFID     28     70       BY SIMILARITY.
FT   DISULFID     40     83       BY SIMILARITY.
FT   DISULFID     69     74       BY SIMILARITY.
SQ   SEQUENCE   133 AA;  14915 MW;  B8E5C05B88D62502 CRC64;

  Query Match             89.6%;  Score 537;  DB 1;  Length 133;
  Best Local Similarity   91.0%;  Pred. No. 2.4e-51;
  Matches  101;  Conservative    2;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Db         23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
              |   ||||:||||||||||||||||  |||:|| |||||||||| ||||
Db         83 CAPLKPTKAARSIRAQRHTDMPKTQKSPSLSTNKKTKLQRRRKGSTFEEHK 133


RESULT 2
IGFB_RAT
ID   IGFB_RAT       STANDARD;      PRT;   181 AA.
AC   P08024;
DT   01-AUG-1988 (Rel. 08, Created)
DT   01-FEB-1991 (Rel. 17, Last sequence update)
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DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
GN   IGF1 OR IGF-1.
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=87222423; PubMed=3034909;
RA   Shimatsu A., Rotwein P.;
RT   "Mosaic evolution of the insulin-like growth factors. Organization,
RT   sequence, and expression of the rat insulin-like growth factor I
RT   gene.";
RL   J. Biol. Chem. 262:7894-7900(1987).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=88015572; PubMed=3658684;
RA   Shimatsu A., Rotwein P.;
RT   "Sequence of two rat insulin-like growth factor I mRNAs differing
RT   within the 5' untranslated region.";
RL   Nucleic Acids Res. 15:7196-7196(1987).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89127259; PubMed=3221878;
RA   Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
RT   "Structure of the rat insulin-like growth factor II transcriptional
RT   unit: heterogeneous transcripts are generated from two promoters by
RT   use of multiple polyadenylation sites and differential ribonucleic
RT   acid splicing.";
RL   Mol. Endocrinol. 2:1115-1126(1988).
RN   [4]
RP   SEQUENCE OF 49-118.
RX   MEDLINE=89174609; PubMed=2538424;
RA   Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
RA   Nakamura S., Niwa M., Zapf J.;
RT   "Primary structure of rat insulin-like growth factor-I and its
RT   biological activities.";
RL   J. Biol. Chem. 264:5616-5621(1989).
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IB;
CC         IsoId=P08024-1; Sequence=Displayed;
CC       Name=IGF-IA;
CC         IsoId=P08025-1; Sequence=External;
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
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CC   or send an email to license@isb-sib.ch).
CC   ------------------------------------------------------------------------
DR   EMBL; M15650; AAA41214.1; -.
DR   EMBL; M15647; AAA41214.1; JOINED.
DR   EMBL; M15648; AAA41214.1; JOINED.
DR   EMBL; M15649; AAA41214.1; JOINED.
DR   EMBL; X06107; CAA29480.1; ALT_SEQ.
DR   EMBL; M15480; AAA41385.1; ALT_SEQ.
DR   PIR; A27804; A27804.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     48
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR IB.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119    181       E PEPTIDE.
FT   DISULFID     54     96       BY SIMILARITY.
FT   DISULFID     66    109       BY SIMILARITY.
FT   DISULFID     95    100       BY SIMILARITY.
FT   CONFLICT    110    112       APL -> VRC (IN REF. 2).
SQ   SEQUENCE   181 AA;  20322 MW;  52BAB431875A1A06 CRC64;

  Query Match             89.5%;  Score 536;  DB 1;  Length 181;
  Best Local Similarity   94.3%;  Pred. No. 4.3e-51;
  Matches  100;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||||||||||| |||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGST 106
              |   |||||||||||||||||||||||||||||||||||||||||| :
Db        109 CAPLKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGES 154


RESULT 3
IGF1_RABIT
ID   IGF1_RABIT     STANDARD;      PRT;   143 AA.
AC   Q95222; O18846;
DT   01-NOV-1997 (Rel. 35, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1 OR IGF-1.
OS   Oryctolagus cuniculus (Rabbit).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
OX   NCBI_TaxID=9986;
RN   [1]
RP   SEQUENCE FROM N.A. (ISOFORM IGF-IA).
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RC   STRAIN=ZIKA;
RA   Flekna G., Brem G., Mueller M.;
RL   Submitted (NOV-1996) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A. (ISOFORM IGF-IB).
RC   STRAIN=ZIKA; TISSUE=Liver;
RA   Flekna G., Brem G., Mueller M.;
RL   Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IB;
CC         IsoId=Q95222-1; Sequence=Displayed;
CC       Name=IGF-IA;
CC         IsoId=Q95222-2; Sequence=VSP_002705;
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U75390; AAB48032.1; -.
DR   EMBL; AF022961; AAB80950.1; -.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
FT   SIGNAL        1     32       POTENTIAL.
FT   CHAIN        33    102       INSULIN-LIKE GROWTH FACTOR I.
FT   PROPEP      103    143       E PEPTIDE.
FT   DOMAIN       33     61       B.
FT   DOMAIN       62     73       C.
FT   DOMAIN       74     94       A.
FT   DOMAIN       95    102       D.
FT   DISULFID     38     80       BY SIMILARITY.
FT   DISULFID     50     93       BY SIMILARITY.
FT   DISULFID     79     84       BY SIMILARITY.
FT   VARSPLIC    119    143       YQPPSTNKKMKSQRRRKGSTFEEHK -> EVHLKNTSRGSA
FT                                GNKNYRM (in isoform IGF-IA).
FT                                /FTId=VSP_002705.
SQ   SEQUENCE   143 AA;  16091 MW;  819AF577800A1B1A CRC64;

  Query Match             85.5%;  Score 512;  DB 1;  Length 143;
  Best Local Similarity   86.5%;  Pred. No. 1.3e-48;
  Matches   96;  Conservative    3;  Mismatches   12;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db         33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 92

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGSTLEEHK 111
                 |   || |:|||:||||||||||||| || ||:|| | |||||||| ||||
Db         93 CAPLKPAKAARSVRAQRHTDMPKTQKYQPPSTNKKMKSQRRRKGSTFEEHK 143


RESULT 4
IGFB_HUMAN
ID   IGFB_HUMAN     STANDARD;      PRT;   195 AA.
AC   P05019;
DT   13-AUG-1987 (Rel. 05, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   15-SEP-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C).
GN   IGF1 OR IBP1.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86168194; PubMed=2937782;
RA   Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
RT   "Organization and sequence of the human insulin-like growth factor I
RT   gene. Alternative RNA processing produces two insulin-like growth
RT   factor I precursor peptides.";
RL   J. Biol. Chem. 261:4828-4832(1986).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86094355; PubMed=3455760;
RA   Rotwein P.;
RT   "Two insulin-like growth factor I messenger RNAs are expressed in
RT   human liver.";
RL   Proc. Natl. Acad. Sci. U.S.A. 83:77-81(1986).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86108862; PubMed=3002851;
RA   de Pagter-Holthuizen P., van Schaik F.M.A., Verduijn G.M.,
RA   van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
RT   "Organization of the human genes for insulin-like growth factors I
RT   and II.";
RL   FEBS Lett. 195:179-184(1986).
RN   [4]
RP   SEQUENCE OF 22-50 FROM N.A.
RX   MEDLINE=84295593; PubMed=6382022;
RA   Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
RT   "Insulin-like growth factor II precursor gene organization in
RT   relation to insulin gene family.";
RL   Nature 310:777-781(1984).
RN   [5]
RP   SEQUENCE OF 49-118.
RX   MEDLINE=78130171; PubMed=632300;
RA   Rinderknecht E., Humbel R.E.;
RT   "The amino acid sequence of human insulin-like growth factor I and
RT   its structural homology with proinsulin.";
RL   J. Biol. Chem. 253:2769-2776(1978).
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RN   [6]
RP   3D-STRUCTURE MODELING.
RX   MEDLINE=83210259; PubMed=6189745;
RA   Blundell T.L., Bedarkar S., Humbel R.E.;
RT   "Tertiary structures, receptor binding, and antigenicity of
RT   insulinlike growth factors.";
RL   Fed. Proc. 42:2592-2597(1983).
RN   [7]
RP   STRUCTURE BY NMR.
RX   MEDLINE=91242464; PubMed=2036417;
RA   Cooke R.M., Harvey T.S., Campbell I.D.;
RT   "Solution structure of human insulin-like growth factor 1: a nuclear
RT   magnetic resonance and restrained molecular dynamics study.";
RL   Biochemistry 30:5484-5491(1991).
RN   [8]
RP   STRUCTURE BY NMR.
RX   MEDLINE=92316903; PubMed=1319992;
RA   Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,
RA   Yasuda T., Kobayashi Y.;
RT   "1H-NMR assignment and secondary structure of human insulin-like
RT   growth factor-I (IGF-I) in solution.";
RL   J. Biochem. 111:529-536(1992).
RN   [9]
RP   DISULFIDE BONDS.
RX   MEDLINE=89207850; PubMed=3242681;
RA   Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
RT   "Location of disulphide bonds in human insulin-like growth factors
RT   (IGFs) synthesized by recombinant DNA technology.";
RL   Biomed. Environ. Mass Spectrom. 16:3-8(1988).
RN   [10]
RP   VARIANT ASP-187.
RX   MEDLINE=99318093; PubMed=10391209;
RA   Cargill M., Altshuler D., Ireland J., Sklar P., Ardlie K., Patil N.,
RA   Shaw N., Lane C.R., Lim E.P., Kalyanaraman N., Nemesh J., Ziaugra L.,
RA   Friedland L., Rolfe A., Warrington J., Lipshutz R., Daley G.Q.,
RA   Lander E.S.;
RT   "Characterization of single-nucleotide polymorphisms in coding regions
RT   of human genes.";
RL   Nat. Genet. 22:231-238(1999).
RN   [11]
RP   ERRATUM.
RA   Cargill M., Altshuler D., Ireland J., Sklar P., Ardlie K., Patil N.,
RA   Shaw N., Lane C.R., Lim E.P., Kalyanaraman N., Nemesh J., Ziaugra L.,
RA   Friedland L., Rolfe A., Warrington J., Lipshutz R., Daley G.Q.,
RA   Lander E.S.;
RL   Nat. Genet. 23:373-373(1999).
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IB;
CC         IsoId=P05019-1; Sequence=Displayed;
CC       Name=IGF-IA;
CC         IsoId=P01343-1; Sequence=External;
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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DR   EMBL; M14155; AAA52537.1; -.
DR   EMBL; M12659; AAA52537.1; JOINED.
DR   EMBL; M14153; AAA52537.1; JOINED.
DR   EMBL; M14154; AAA52537.1; JOINED.
DR   EMBL; M11568; AAA52539.1; -.
DR   EMBL; X03563; CAA27250.1; ALT_SEQ.
DR   EMBL; X03420; CAA27152.1; -.
DR   EMBL; X03421; CAA27153.1; -.
DR   EMBL; X03422; CAA27154.1; -.
DR   PIR; A01611; IGHU1B.
DR   PDB; 1GF1; 15-OCT-94.
DR   PDB; 2GF1; 15-APR-93.
DR   PDB; 3GF1; 15-APR-93.
DR   PDB; 1BQT; 18-MAY-99.
DR   Genew; HGNC:5464; IGF1.
DR   MIM; 147440; -.
DR   MIM; 265850; -.
DR   GO; GO:0005159; F:insulin-like growth factor receptor binding. . .; TAS.
DR   GO; GO:0005180; F:peptide hormone; TAS.
DR   GO; GO:0006928; P:cell motility; TAS.
DR   GO; GO:0006260; P:DNA replication; TAS.
DR   GO; GO:0009441; P:glycolate metabolism; TAS.
DR   GO; GO:0007517; P:muscle development; TAS.
DR   GO; GO:0008284; P:positive regulation of cell proliferation; TAS.
DR   GO; GO:0007265; P:RAS protein signal transduction; TAS.
DR   GO; GO:0007165; P:signal transduction; TAS.
DR   GO; GO:0001501; P:skeletal development; TAS.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; 3D-structure; Plasma;
KW   Alternative splicing; Signal; Polymorphism.
FT   SIGNAL   1   21   POTENTIAL.
FT   PROPEP   22   48
FT   CHAIN   49   118   INSULIN-LIKE GROWTH FACTOR IB.
FT   DOMAIN   49   77   B.
FT   DOMAIN   78   89   C.
FT   DOMAIN   90   110   A.
FT   DOMAIN   111   118   D.
FT   PROPEP   119   195   E PEPTIDE.
FT   DISULFID   54   96
FT   DISULFID   66   109
FT   DISULFID   95   100
FT   VARIANT   187   187   A -> D (IN dbSNP:6213).
FT   /FTId=VAR_013945.
FT   STRAND   51   51
FT   TURN   55   55

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FT   HELIX        56     69
FT   TURN         87     88
FT   HELIX        91     95
FT   TURN         96     97
FT   STRAND       99     99
FT   HELIX       106    109
SQ   SEQUENCE   195 AA;  21841 MW;  E88A8CFBD1CD1873 CRC64;

  Query Match             77.5%;  Score 464;  DB 1;  Length 195;
  Best Local Similarity   85.3%;  Pred. No. 3e-43;
  Matches   87;  Conservative    3;  Mismatches   12;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRR 102
              |   || |||||:|||||||||||| || ||:|  | |||:
Db        109 CAPLKPAKSARSVRAQRHTDMPKTQKYQPPSTNKNTKSQRRK 150


RESULT 5
IGFA_RAT
ID   IGFA_RAT       STANDARD;      PRT;   153 AA.
AC   P08025;
DT   01-AUG-1988 (Rel. 08, Created)
DT   01-FEB-1991 (Rel. 17, Last sequence update)
DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
GN   IGF1 OR IGF-1.
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=87222423; PubMed=3034909;
RA   Shimatsu A., Rotwein P.;
RT   "Mosaic evolution of the insulin-like growth factors. Organization,
RT   sequence, and expression of the rat insulin-like growth factor I
RT   gene.";
RL   J. Biol. Chem. 262:7894-7900(1987).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Testis;
RX   MEDLINE=88003970; PubMed=3652906;
RA   Casella S.J., Smith E.P., van Wyk J.J., Joseph D.R., Hynes M.A.,
RA   Hoyt E.C., Lund P.K.;
RT   "Isolation of rat testis cDNAs encoding an insulin-like growth factor
RT   I precursor.";
RL   DNA 6:325-330(1987).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=91103966; PubMed=1368571;
RA   Kato H., Okoshi A., Miura Y., Noguchi T.;
RT   "A new cDNA clone relating to larger molecular species of rat
RT   insulin-like growth factor-I mRNA.";
```

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RL   Agric. Biol. Chem. 54:1599-1601(1990).
RN   [4]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89127259; PubMed=3221878;
RA   Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
RT   "Structure of the rat insulin-like growth factor II transcriptional
RT   unit: heterogeneous transcripts are generated from two promoters by
RT   use of multiple polyadenylation sites and differential ribonucleic
RT   acid splicing.";
RL   Mol. Endocrinol. 2:1115-1126(1988).
RN   [5]
RP   SEQUENCE OF 46-153 FROM N.A.
RX   MEDLINE=87246437; PubMed=3595538;
RA   Murphy L.J., Bell G.I., Duckworth M.L., Friesen H.G.;
RT   "Identification, characterization, and regulation of a rat
RT   complementary deoxyribonucleic acid which encodes insulin-like growth
RT   factor-I.";
RL   Endocrinology 121:684-691(1987).
RN   [6]
RP   SEQUENCE OF 49-118.
RX   MEDLINE=89174609; PubMed=2538424;
RA   Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
RA   Nakamura S., Niwa M., Zapf J.;
RT   "Primary structure of rat insulin-like growth factor-I and its
RT   biological activities.";
RL   J. Biol. Chem. 264:5616-5621(1989).
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IA;
CC         IsoId=P08025-1; Sequence=Displayed;
CC       Name=IGF-IB;
CC         IsoId=P08024-1; Sequence=External;
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; X06043; CAA29436.1; -.
DR   EMBL; M15651; AAA41215.1; -.
DR   EMBL; M15647; AAA41215.1; JOINED.
DR   EMBL; M15648; AAA41215.1; JOINED.
DR   EMBL; M15649; AAA41215.1; JOINED.
DR   EMBL; M17714; AAA41227.1; -.
DR   EMBL; M17335; AAA41386.1; ALT_INIT.
DR   EMBL; M15481; AAA41387.1; ALT_INIT.
DR   PIR; B27804; B27804.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
```

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DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     48
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR IA.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119    153       E PEPTIDE.
FT   DISULFID     54     96       BY SIMILARITY.
FT   DISULFID     66    109       BY SIMILARITY.
FT   DISULFID     95    100       BY SIMILARITY.
FT   CONFLICT    110    112       APL -> VRC (IN REF. 4).
SQ   SEQUENCE   153 AA;  17079 MW;  966F3C0FA4EB3DE7 CRC64;

  Query Match             74.0%;  Score 443;  DB 1;  Length 153;
  Best Local Similarity   95.3%;  Pred. No. 4.3e-41;
  Matches   82;  Conservative    0;  Mismatches    4;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              ||||||||||||||||||||||||||| |||||||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   ||||||||||||||||||||||
Db        109 CAPLKPTKSARSIRAQRHTDMPKTQK 134


RESULT 6
IGFA_MOUSE
ID   IGFA_MOUSE     STANDARD;      PRT;   127 AA.
AC   P05017;
DT   13-AUG-1987 (Rel. 05, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
GN   IGF1 OR IGF-1.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=87040760; PubMed=3774549;
RA   Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;
RT   "Sequences of liver cDNAs encoding two different mouse insulin-like
RT   growth factor I precursors.";
RL   Nucleic Acids Res. 14:7873-7882(1986).
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
```

```
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IA;
CC         IsoId=P05017-1; Sequence=Displayed;
CC       Name=IGF-IB;
CC         IsoId=P05018-1; Sequence=External;
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; X04480; CAA28168.1; -.
DR   PIR; A25540; A25540.
DR   HSSP; P01343; 1GF1.
DR   MGD; MGI:96432; Igf1.
DR   GO; GO:0009887; P:organogenesis; IMP.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT   SIGNAL        1     22
FT   CHAIN        23     92       INSULIN-LIKE GROWTH FACTOR IA.
FT   DOMAIN       23     51       B.
FT   DOMAIN       52     63       C.
FT   DOMAIN       64     84       A.
FT   DOMAIN       85     92       D.
FT   PROPEP       93    127       E PEPTIDE.
FT   DISULFID     28     70       BY SIMILARITY.
FT   DISULFID     40     83       BY SIMILARITY.
FT   DISULFID     69     74       BY SIMILARITY.
SQ   SEQUENCE   127 AA;  14120 MW;  1054B8CAC72DC2D7 CRC64;

  Query Match             73.5%;  Score 440;  DB 1;  Length 127;
  Best Local Similarity   94.2%;  Pred. No. 7.4e-41;
  Matches   81;  Conservative    1;  Mismatches    4;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||||||||||||| |||||||||||||||||||||||||||||||
Db         23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 82

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   ||||:||||||||||||||||
Db         83 CAPLKPTKAARSIRAQRHTDMPKTQK 108


RESULT 7
IGF1_CAVPO
ID   IGF1_CAVPO     STANDARD;      PRT;   130 AA.
AC   P17647;
DT   01-AUG-1990 (Rel. 15, Created)
DT   01-AUG-1990 (Rel. 15, Last sequence update)
DT   01-FEB-1994 (Rel. 28, Last annotation update)
```

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DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Cavia porcellus (Guinea pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
OX   NCBI_TaxID=10141;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Pancreas;
RX   MEDLINE=90332447; PubMed=2377480;
RA   Bell G.I., Stempien M.M., Fong N.M., Scino S.;
RT   "Sequence of a cDNA encoding guinea pig IGF-I.";
RL   Nucleic Acids Res. 18:4275-4275(1990).
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X52951; CAA37127.1; -.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1     25
FT   CHAIN        26     95       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       26     54       B.
FT   DOMAIN       55     66       C.
FT   DOMAIN       67     87       A.
FT   DOMAIN       88     95       D.
FT   PROPEP       96    130       E PEPTIDE.
FT   DISULFID     31     73       BY SIMILARITY.
FT   DISULFID     43     86       BY SIMILARITY.
FT   DISULFID     72     77       BY SIMILARITY.
SQ   SEQUENCE   130 AA;  14342 MW;  251B20AEDC5729FF CRC64;

  Query Match             70.6%;  Score 423;  DB 1;  Length 130;
  Best Local Similarity   90.7%;  Pred. No. 5.3e-39;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         26 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 85

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:||||||||||||||
Db         86 CAPLKPAKSARSVRAQRHTDMPKTQK 111
```

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RESULT 8
IGFA_HUMAN
ID   IGFA_HUMAN     STANDARD;      PRT;   153 AA.
AC   P01343;
DT   21-JUL-1986 (Rel. 01, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   15-SEP-2003 (Rel. 42, Last annotation update)
DE   Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin C).
GN   IGF1 OR IBP1.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86168194; PubMed=2937782;
RA   Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
RT   "Organization and sequence of the human insulin-like growth factor I
RT   gene. Alternative RNA processing produces two insulin-like growth
RT   factor I precursor peptides.";
RL   J. Biol. Chem. 261:4828-4832(1986).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=84068210; PubMed=6358902;
RA   Jansen M., van Schaik F.M.A., Ricker A.T., Bullock B., Woods D.E.,
RA   Gabbay K.H., Nussbaum A.L., Sussenbach J.S., van den Brande J.L.;
RT   "Sequence of cDNA encoding human insulin-like growth factor I
RT   precursor.";
RL   Nature 306:609-611(1983).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86108910; PubMed=2935423;
RA   le Bouc Y., Dreyer D., Jaeger F., Binoux M., Sondermeyer P.;
RT   "Complete characterization of the human IGF-I nucleotide sequence
RT   isolated from a newly constructed adult liver cDNA library.";
RL   FEBS Lett. 196:108-112(1986).
RN   [4]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86108862; PubMed=3002851;
RA   de Pagter-Holthuizen P., van Schaik F.M.A., Verduijn G.M.,
RA   van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
RT   "Organization of the human genes for insulin-like growth factors I
RT   and II.";
RL   FEBS Lett. 195:179-184(1986).
RN   [5]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=91207342; PubMed=2018498;
RA   Steenbergh P.H., Koonen-Reemst A.M.C.B., Cleutjens C.B.J.M.,
RA   Sussenbach J.S.;
RT   "Complete nucleotide sequence of the high molecular weight human
RT   IGF-I mRNA.";
RL   Biochem. Biophys. Res. Commun. 175:507-514(1991).
RN   [6]
RP   SEQUENCE FROM N.A.
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RC   TISSUE=Brain;
RX   MEDLINE=92186627; PubMed=1372070;
RA   Sandberg Nordqvist A.C., Stahlbom P.A., Lake M., Sara V.R.;
RT   "Characterization of two cDNAs encoding insulin-like growth factor 1
RT   (IGF-1) in the human fetal brain.";
RL   Brain Res. Mol. Brain Res. 12:275-277(1992).
RN   [7]
RP   SEQUENCE OF 24-50 AND 119-153 FROM N.A.
RX   MEDLINE=84295593; PubMed=6382022;
RA   Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
RT   "Insulin-like growth factor II precursor gene organization in
RT   relation to insulin gene family.";
RL   Nature 310:777-781(1984).
RN   [8]
RP   SEQUENCE OF 49-118.
RX   MEDLINE=78130171; PubMed=632300;
RA   Rinderknecht E., Humbel R.E.;
RT   "The amino acid sequence of human insulin-like growth factor I and
RT   its structural homology with proinsulin.";
RL   J. Biol. Chem. 253:2769-2776(1978).
RN   [9]
RP   3D-STRUCTURE MODELING.
RX   MEDLINE=83210259; PubMed=6189745;
RA   Blundell T.L., Bedarkar S., Humbel R.E.;
RT   "Tertiary structures, receptor binding, and antigenicity of
RT   insulinlike growth factors.";
RL   Fed. Proc. 42:2592-2597(1983).
RN   [10]
RP   STRUCTURE BY NMR.
RX   MEDLINE=91242464; PubMed=2036417;
RA   Cooke R.M., Harvey T.S., Campbell I.D.;
RT   "Solution structure of human insulin-like growth factor 1: a nuclear
RT   magnetic resonance and restrained molecular dynamics study.";
RL   Biochemistry 30:5484-5491(1991).
RN   [11]
RP   STRUCTURE BY NMR.
RX   MEDLINE=92316903; PubMed=1319992;
RA   Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,
RA   Yasuda T., Kobayashi Y.;
RT   "1H-NMR assignment and secondary structure of human insulin-like
RT   growth factor-I (IGF-I) in solution.";
RL   J. Biochem. 111:529-536(1992).
RN   [12]
RP   DISULFIDE BONDS.
RX   MEDLINE=89207850; PubMed=3242681;
RA   Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
RT   "Location of disulphide bonds in human insulin-like growth factors
RT   (IGFs) synthesized by recombinant DNA technology.";
RL   Biomed. Environ. Mass Spectrom. 16:3-8(1988).
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=IGF-IA;
CC         IsoId=P01343-1; Sequence=Displayed;
```

```
CC       Name=IGF-IB;
CC         IsoId=P05019-1; Sequence=External;
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M14156; AAA52538.1; -.
DR   EMBL; M12659; AAA52538.1; JOINED.
DR   EMBL; M14153; AAA52538.1; JOINED.
DR   EMBL; M14154; AAA52538.1; JOINED.
DR   EMBL; X00173; CAA24998.1; -.
DR   EMBL; X03563; CAA27250.1; ALT_SEQ.
DR   EMBL; M27544; AAA52787.1; -.
DR   EMBL; X03420; CAA27152.1; -.
DR   EMBL; X03421; CAA27153.1; -.
DR   EMBL; X03422; CAA27154.1; -.
DR   EMBL; X57025; CAA40342.1; -.
DR   EMBL; X56773; CAA40092.1; -.
DR   PIR; A92581; IGHU1.
DR   PDB; 1GF1; 15-OCT-94.
DR   PDB; 2GF1; 15-APR-93.
DR   PDB; 3GF1; 15-APR-93.
DR   PDB; 1B9G; 23-FEB-99.
DR   PDB; 1GZR; 02-OCT-02.
DR   PDB; 1GZY; 02-OCT-02.
DR   PDB; 1GZZ; 25-JUL-02.
DR   PDB; 1H02; 25-JUL-02.
DR   PDB; 1H59; 16-MAY-02.
DR   PDB; 1IMX; 03-OCT-01.
DR   Genew; HGNC:5464; IGF1.
DR   MIM; 147440; -.
DR   MIM; 265850; -.
DR   GO; GO:0005159; F:insulin-like growth factor receptor binding. . .; TAS.
DR   GO; GO:0005180; F:peptide hormone; TAS.
DR   GO; GO:0006928; P:cell motility; TAS.
DR   GO; GO:0006260; P:DNA replication; TAS.
DR   GO; GO:0009441; P:glycolate metabolism; TAS.
DR   GO; GO:0007517; P:muscle development; TAS.
DR   GO; GO:0008284; P:positive regulation of cell proliferation; TAS.
DR   GO; GO:0007265; P:RAS protein signal transduction; TAS.
DR   GO; GO:0007165; P:signal transduction; TAS.
DR   GO; GO:0001501; P:skeletal development; TAS.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; 3D-structure;
KW   Alternative splicing; Signal.
FT   SIGNAL       1     21       POTENTIAL.
FT   PROPEP      22     48
FT   CHAIN       49    118       INSULIN-LIKE GROWTH FACTOR IA.
```

```
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119    153       E PEPTIDE.
FT   DISULFID     54     96
FT   DISULFID     66    109
FT   DISULFID     95    100
FT   STRAND       51     51
FT   TURN         55     55
FT   HELIX        56     69
FT   TURN         87     88
FT   HELIX        91     95
FT   TURN         96     97
FT   STRAND       99     99
FT   HELIX       106    109
SQ   SEQUENCE   153 AA;  17026 MW;  C6ECD92DCA9B37BC CRC64;

  Query Match             70.6%;  Score 423;  DB 1;  Length 153;
  Best Local Similarity   90.7%;  Pred. No. 6.3e-39;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:|||||||||||||
Db        109 CAPLKPAKSARSVRAQRHTDMPKTQK 134


RESULT 9
IGF1_CAPHI
ID   IGF1_CAPHI     STANDARD;      PRT;   154 AA.
AC   P51457;
DT   01-OCT-1996 (Rel. 34, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Capra hircus (Goat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Caprinae; Capra.
OX   NCBI_TaxID=9925;
RN   [1]
RP   SEQUENCE FROM N.A., AND TISSUE SPECIFICITY.
RC   STRAIN=Shiba; TISSUE=Liver;
RX   MEDLINE=95290780; PubMed=7772848;
RA   Mikawa S., Yoshikawa G.-I., Yamano Y., Sakai H., Komano T., Hosoi Y.,
RA   Utsumi K.;
RT   "Tissue- and development-specific expression of goat insulin-like
RT   growth factor-I (IGF-I) mRNAs.";
RL   Biosci. Biotechnol. Biochem. 59:759-761(1995).
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
```

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CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXAMINED: BRAIN,
CC       LUNG, LIVER, SPLEEN, UTERUS, OVARY, TESTIS, HEART AND SKELETAL
CC       MUSCLE.
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC   ----------------------------------------------------------------------
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CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; D26116; BAA05112.1; ALT_TERM.
DR   EMBL; D26117; BAA05113.1; -.
DR   EMBL; D26118; BAA05114.1; -.
DR   EMBL; D26119; BAA05115.1; -.
DR   EMBL; D11378; BAA01976.1; -.
DR   PIR; JC2483; JC2483.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     49       BY SIMILARITY.
FT   CHAIN        50    119       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       50     78       B.
FT   DOMAIN       79     90       C.
FT   DOMAIN       91    111       A.
FT   DOMAIN      112    119       D.
FT   PROPEP      120    154       E PEPTIDE.
FT   DISULFID     55     97       BY SIMILARITY.
FT   DISULFID     67    110       BY SIMILARITY.
FT   DISULFID     96    101       BY SIMILARITY.
SQ   SEQUENCE   154 AA;  17082 MW;  07238B6AF3068422 CRC64;

  Query Match             70.6%;  Score 423;  DB 1;  Length 154;
  Best Local Similarity   90.7%;  Pred. No. 6.4e-39;
  Matches   78;  Conservative    1;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 109

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   ||||||||:|||||||||| ||
Db        110 CAPLKPTKSARSVRAQRHTDMPKAQK 135


RESULT 10
IGF1_CANFA
ID   IGF1_CANFA     STANDARD;      PRT;   122 AA.
AC   P33712;
DT   01-FEB-1994 (Rel. 28, Created)
```

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DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   01-NOV-1997 (Rel. 35, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE   (Fragment).
GN   IGF1 OR IGFIA.
OS   Canis familiaris (Dog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX   NCBI_TaxID=9615;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=93366192; PubMed=8359700;
RA   Delafontaine P., Lou H., Harrison D.G., Bernstein K.E.;
RT   "Sequence of a cDNA encoding dog insulin-like growth factor I.";
RL   Gene 130:305-306(1993).
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC   ---------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; L08254; -; NOT_ANNOTATED_CDS.
DR   PIR; PN0622; PN0622.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   NON_TER       1      1
FT   SIGNAL       <1     19       BY SIMILARITY.
FT   CHAIN        20     89       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       20     48       B.
FT   DOMAIN       49     60       C.
FT   DOMAIN       61     81       A.
FT   DOMAIN       82     89       D.
FT   PROPEP       90    122       E PEPTIDE.
FT   DISULFID     25     67       BY SIMILARITY.
FT   DISULFID     37     80       BY SIMILARITY.
FT   DISULFID     66     71       BY SIMILARITY.
SQ   SEQUENCE   122 AA;  13407 MW;  036A004DC44E7D75 CRC64;

  Query Match             69.8%;  Score 418;  DB 1;  Length 122;
  Best Local Similarity   89.5%;  Pred. No. 1.7e-38;
  Matches   77;  Conservative    1;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||
Db         20 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 79
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Qy          61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
               |   || |||||:|||||||||| ||
Db          80 CAPLKPAKSARSVRAQRHTDMPKAQK 105


RESULT 11
IGF1_PIG
ID   IGF1_PIG       STANDARD;      PRT;   153 AA.
AC   P16545;
DT   01-AUG-1990 (Rel. 15, Created)
DT   01-AUG-1990 (Rel. 15, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Sus scrofa (Pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX   NCBI_TaxID=9823;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=90221822; PubMed=2326169;
RA   Mueller M., Brem G.;
RT   "Nucleotide sequence of porcine insulin-like growth factor. 1:5'
RT   untranslated region, exons 1 and 2 and mRNA.";
RL   Nucleic Acids Res. 18:364-364(1990).
RN   [2]
RP   SEQUENCE OF 20-153 FROM N.A.
RX   MEDLINE=89096956; PubMed=3211153;
RA   Tavakkol A., Simmen F.A., Simmen R.C.M.;
RT   "Porcine insulin-like growth factor-I (pIGF-I): complementary
RT   deoxyribonucleic acid cloning and uterine expression of messenger
RT   ribonucleic acid encoding evolutionarily conserved IGF-I peptides.";
RL   Mol. Endocrinol. 2:674-681(1988).
RN   [3]
RP   SEQUENCE OF 1-21 FROM N.A.
RC   STRAIN=White Landrace; TISSUE=Liver;
RX   MEDLINE=94128209; PubMed=8297476;
RA   Weller P.A., Dickson M.C., Huskisson N.S., Dauncey M.J., Buttery P.J.,
RA   Gilmour R.S.;
RT   "The porcine insulin-like growth factor-I gene: characterization and
RT   expression of alternate transcription sites.";
RL   J. Mol. Endocrinol. 11:201-211(1993).
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
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DR   EMBL; X17492; CAA35527.1; -.
DR   EMBL; X52388; CAA36617.1; -.
DR   EMBL; X52077; CAA36296.1; -.
DR   EMBL; M31175; AAA31043.1; ALT_INIT.
DR   EMBL; X17638; CAA35632.1; -.
DR   PIR; S12825; S12825.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     48
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119    153       E PEPTIDE.
FT   DISULFID     54     96       BY SIMILARITY.
FT   DISULFID     66    109       BY SIMILARITY.
FT   DISULFID     95    100       BY SIMILARITY.
SQ   SEQUENCE   153 AA;  17010 MW;  6098792DCDA0CD7D CRC64;

  Query Match             69.8%;  Score 418;  DB 1;  Length 153;
  Best Local Similarity   89.5%;  Pred. No. 2.2e-38;
  Matches   77;  Conservative    1;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| |||||||||||||||||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:|||||||||| ||
Db        109 CAPLKPAKSARSVRAQRHTDMPKAQK 134


RESULT 12
IGF1_BOVIN
ID   IGF1_BOVIN     STANDARD;      PRT;   154 AA.
AC   P07455;
DT   01-APR-1988 (Rel. 07, Created)
DT   01-NOV-1991 (Rel. 20, Last sequence update)
DT   01-OCT-1996 (Rel. 34, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   SEQUENCE OF 2-154 FROM N.A.
RX   MEDLINE=90175014; PubMed=2308858;
RA   Fotsis T., Murphy C., Gannon F.;
RT   "Nucleotide sequence of the bovine insulin-like growth factor 1
```

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RT   (IGF-1) and its IGF-1A precursor.";
RL   Nucleic Acids Res. 18:676-676(1990).
RN   [2]
RP   SEQUENCE OF 50-119 FROM N.A.
RX   MEDLINE=95172127; PubMed=7867698;
RA   Schmidt A., Einspanier R., Amselgruber W., Sinowatz F., Schams D.;
RT   "Expression of insulin-like growth factor 1 (IGF-1) in the bovine
RT   oviduct during the oestrous cycle.";
RL   Exp. Clin. Endocrinol. 102:364-369(1994).
RN   [3]
RP   SEQUENCE OF 50-119.
RX   MEDLINE=86085881; PubMed=3941093;
RA   Honegger A., Humbel R.E.;
RT   "Insulin-like growth factors I and II in fetal and adult bovine
RT   serum. Purification, primary structures, and immunological
RT   cross-reactivities.";
RL   J. Biol. Chem. 261:569-575(1986).
RN   [4]
RP   SEQUENCE OF 50-119.
RX   MEDLINE=88268820; PubMed=3390164;
RA   Francis G.L., Upton F.M., Ballard F.J., McNeil K.A., Wallace J.C.;
RT   "Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences
RT   and biological activities compared with those of a potent truncated
RT   form.";
RL   Biochem. J. 251:95-103(1988).
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X15726; CAA33746.1; -.
DR   EMBL; S76122; AAD14209.1; -.
DR   PIR; S12672; IGBO1.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     49
FT   CHAIN        50    119       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       50     78       B.
FT   DOMAIN       79     90       C.
FT   DOMAIN       91    111       A.
FT   DOMAIN      112    119       D.
FT   PROPEP      120    154       E PEPTIDE.
FT   DISULFID     55     97       BY SIMILARITY.
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FT   DISULFID     67    110       BY SIMILARITY.
FT   DISULFID     96    101       BY SIMILARITY.
SQ   SEQUENCE   154 AA;  17066 MW;  64201B6AF3140999 CRC64;

  Query Match             69.8%;  Score 418;  DB 1;  Length 154;
  Best Local Similarity   89.5%;  Pred. No. 2.2e-38;
  Matches   77;  Conservative    1;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||
Db         50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 109

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   || |||||:|||||||||| ||
Db        110 CAPLKPAKSARSVRAQRHTDMPKAQK 135


RESULT 13
IGF1_SHEEP
ID   IGF1_SHEEP     STANDARD;      PRT;   154 AA.
AC   P10763;
DT   01-JUL-1989 (Rel. 11, Created)
DT   01-FEB-1991 (Rel. 17, Last sequence update)
DT   28-FEB-2003 (Rel. 41, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Ovis aries (Sheep).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Caprinae; Ovis.
OX   NCBI_TaxID=9940;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=90126234; PubMed=2575490;
RA   Wong E.A., Ohlsen S.M., Godfredson J.A., Dean D.M., Wheaton J.E.;
RT   "Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity
RT   in the mRNA population.";
RL   DNA 8:649-657(1989).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=91197361; PubMed=2015053;
RA   Dickson M.C., Saunders J.C., Gilmour R.S.;
RT   "The ovine insulin-like growth factor-I gene: characterization,
RT   expression and identification of a putative promoter.";
RL   J. Mol. Endocrinol. 6:17-31(1991).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=93221682; PubMed=8466647;
RA   Ohlsen S.M., Dean D.M., Wong E.A.;
RT   "Characterization of multiple transcription initiation sites of the
RT   ovine insulin-like growth factor-I gene and expression profiles of
RT   three alternatively spliced transcripts.";
RL   DNA Cell Biol. 12:243-251(1993).
RN   [4]
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RP   SEQUENCE OF 55-135 FROM N.A.
RC   STRAIN=Coopworth; TISSUE=Liver;
RX   MEDLINE=93250051; PubMed=8485157;
RA   Demmer J., Hill D.F., Petersen G.B.;
RT   "Characterization of two sheep insulin-like growth factor II cDNAs
RT   with different 5'-untranslated regions.";
RL   Biochim. Biophys. Acta 1173:79-80(1993).
RN   [5]
RP   SEQUENCE OF 50-119.
RX   MEDLINE=89136887; PubMed=2537174;
RA   Francis G.L., McNeil K.A., Wallace J.C., Ballard F.J., Owens P.C.;
RT   "Sheep insulin-like growth factors I and II: sequences, activities
RT   and assays.";
RL   Endocrinology 124:1173-1183(1989).
RN   [6]
RP   SEQUENCE OF 50-79.
RX   MEDLINE=89323215; PubMed=2752053;
RA   Hey A.W., Browne C.A., Simpson R.J., Thorburn G.D.;
RT   "Simultaneous isolation of insulin-like growth factors I and II from
RT   adult sheep serum.";
RL   Biochim. Biophys. Acta 997:27-35(1989).
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
CC       Event=Alternative splicing; Named isoforms=3;
CC       Name=B;
CC         IsoId=P10763-1; Sequence=Displayed;
CC       Name=A;
CC         IsoId=P10763-2; Sequence=VSP_002707;
CC       Name=C;
CC         IsoId=P10763-3; Sequence=VSP_002706;
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M30653; AAA80532.1; -.
DR   EMBL; M30653; AAA80533.1; -.
DR   EMBL; M31734; AAA80535.1; -.
DR   EMBL; M31734; AAA80534.1; -.
DR   EMBL; M31736; AAA31545.1; -.
DR   EMBL; M31735; AAA31546.1; -.
DR   EMBL; M31735; AAA31547.1; -.
DR   EMBL; X69472; CAA49230.1; -.
DR   EMBL; X69473; CAA49230.1; JOINED.
DR   EMBL; X69474; CAA49230.1; JOINED.
DR   EMBL; X69475; CAA49230.1; JOINED.
DR   EMBL; X69472; CAA49231.1; -.
DR   EMBL; X69473; CAA49231.1; JOINED.
DR   EMBL; X69474; CAA49231.1; JOINED.
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DR   EMBL; X69475; CAA49231.1; JOINED.
DR   EMBL; X69473; CAA49232.1; -.
DR   EMBL; X69474; CAA49232.1; JOINED.
DR   EMBL; X69475; CAA49232.1; JOINED.
DR   EMBL; M89787; AAA31544.1; -.
DR   PIR; S22877; A33390.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
FT   SIGNAL        1      ?
FT   PROPEP        ?     49
FT   CHAIN        50    119       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       50     78       B.
FT   DOMAIN       79     90       C.
FT   DOMAIN       91    111       A.
FT   DOMAIN      112    119       D.
FT   PROPEP      120    154       E PEPTIDE.
FT   DISULFID     55     97       BY SIMILARITY.
FT   DISULFID     67    110       BY SIMILARITY.
FT   DISULFID     96    101       BY SIMILARITY.
FT   VARSPLIC      1     21       MGKISSLPTQLFKCCFCDFLK -> MVTPT (in
FT                                isoform C).
FT                                /FTId=VSP_002706.
FT   VARSPLIC      1     34       Missing (in isoform A).
FT                                /FTId=VSP_002707.
FT   CONFLICT     57     57       A -> V (IN REF. 4).
SQ   SEQUENCE   154 AA;  17012 MW;  E226CE6AF653CF3F CRC64;

  Query Match             68.4%;  Score 410;  DB 1;  Length 154;
  Best Local Similarity   88.4%;  Pred. No. 1.6e-37;
  Matches   76;  Conservative    1;  Mismatches    9;  Indels    0;  Gaps    0;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| ||||||||| |||| ||||||||||||||||||||||||
Db         50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSCDLRRLEMY 109

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
              |   |  |||||:|||||||||| ||
Db        110 CAPLKAAKSARSVRAQRHTDMPKAQK 135


RESULT 14
IGF1_COTJA
ID   IGF1_COTJA     STANDARD;      PRT;   124 AA.
AC   P51462;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE   (Fragment).
GN   IGF1.
OS   Coturnix coturnix japonica (Japanese quail).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
```

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OC   Coturnix.
OX   NCBI_TaxID=93934;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95187621; PubMed=7881819;
RA   Kida S., Iwaki M., Nakamura A., Miura Y., Takenaka A., Takahashi S.,
RA   Noguchi T.;
RT   "Insulin-like growth factor-I messenger RNA content in the oviduct of
RT   Japanese quail (Coturnix coturnix japonica): changes during growth
RT   and development or after estrogen administration.";
RL   Comp. Biochem. Physiol. 109C:191-204(1994).
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; S75247; -; NOT_ANNOTATED_CDS.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma.
FT   NON_TER       1      1
FT   PROPEP       <1     19       POTENTIAL.
FT   CHAIN        20     89       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       20     48       B.
FT   DOMAIN       49     60       C.
FT   DOMAIN       61     81       A.
FT   DOMAIN       82     89       D.
FT   PROPEP       90    124       E PEPTIDE.
FT   DISULFID     25     67       BY SIMILARITY.
FT   DISULFID     37     80       BY SIMILARITY.
FT   DISULFID     66     71       BY SIMILARITY.
SQ   SEQUENCE   124 AA;  13888 MW;  52254EB1BA52C3B6 CRC64;

  Query Match             64.1%;  Score 384;  DB 1;  Length 124;
  Best Local Similarity   70.8%;  Pred. No. 8.4e-35;
  Matches   75;  Conservative    6;  Mismatches   17;  Indels    8;  Gaps    2;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| |||||:||| |||| ||    ||||||||:||||||||||
Db         20 GPETLCGAELVDALQFVCGDRGFYFSKPTGYGSSSRRLHHKGIVDECCFQSCDLRRLEMY 79

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGST 106
              |   || |||||:|||||||||| ||      |    |:   :|:|
Db         80 CAPIKPPKSARSVRAQRHTDMPKAQK----EVH----LKNTSRGNT 117
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RESULT 15
IGF1_CHICK
ID   IGF1_CHICK     STANDARD;      PRT;   153 AA.
AC   P18254;
DT   01-NOV-1990 (Rel. 16, Created)
DT   01-NOV-1990 (Rel. 16, Last sequence update)
DT   01-OCT-1996 (Rel. 34, Last annotation update)
DE   Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN   IGF1.
OS   Gallus gallus (Chicken).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Gallus.
OX   NCBI_TaxID=9031;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=90190648; PubMed=2628728;
RA   Kajimoto Y., Rotwein P.;
RT   "Structure and expression of a chicken insulin-like growth factor I
RT   precursor.";
RL   Mol. Endocrinol. 3:1907-1913(1989).
RN   [2]
RP   SEQUENCE OF 1-21 FROM N.A.
RX   MEDLINE=91236750; PubMed=2033062;
RA   Rotwein P., Kajimoto Y.;
RT   "Structure of the chicken insulin-like growth factor I gene reveals
RT   conserved promoter elements.";
RL   J. Biol. Chem. 266:9724-9731(1991).
RN   [3]
RP   SEQUENCE OF 49-118.
RX   MEDLINE=91106695; PubMed=2272467;
RA   Ballard F.J., Johnson R.J., Owens P.C., Francis G.L., Upton F.M.,
RA   McMurtry J.P., Wallace J.C.;
RT   "Chicken insulin-like growth factor-I: amino acid sequence,
RT   radioimmunoassay, and plasma levels between strains and during
RT   growth.";
RL   Gen. Comp. Endocrinol. 79:459-468(1990).
CC   -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC       ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC       MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC   ----------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; M32791; AAA48828.1; -.
DR   EMBL; M74176; AAA48829.1; -.
DR   PIR; A41399; A41399.
DR   HSSP; P01343; 1GF1.
DR   InterPro; IPR004825; Ins/IGF/relax.
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DR   Pfam; PF00049; Insulin; 1.
DR   SMART; SM00078; IlGF; 1.
DR   PROSITE; PS00262; INSULIN; 1.
KW   Insulin family; Growth factor; Plasma; Signal.
FT   SIGNAL        1      ?
FT   PROPEP        ?     48
FT   CHAIN        49    118       INSULIN-LIKE GROWTH FACTOR I.
FT   DOMAIN       49     77       B.
FT   DOMAIN       78     89       C.
FT   DOMAIN       90    110       A.
FT   DOMAIN      111    118       D.
FT   PROPEP      119    153       E PEPTIDE.
FT   DISULFID     54     96       BY SIMILARITY.
FT   DISULFID     66    109       BY SIMILARITY.
FT   DISULFID     95    100       BY SIMILARITY.
SQ   SEQUENCE   153 AA;  17267 MW;  AAE13FDED13EE2F8 CRC64;

  Query Match             64.1%;  Score 384;  DB 1;  Length 153;
  Best Local Similarity   70.8%;  Pred. No. 1.1e-34;
  Matches   75;  Conservative    6;  Mismatches   17;  Indels    8;  Gaps    2;

Qy          1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
              |||||||||||||||||| |||||:||| |||| ||    ||||||||:||||||||||
Db         49 GPETLCGAELVDALQFVCGDRGFYFSKPTGYGSSSRRLHHKGIVDECCFQSCDLRRLEMY 108

Qy         61 CVRCKPTKSARSIRAQRHTDMPKTQKSQPLSTHKKRKLQRRRKGST 106
              |   || |||||:|||||||||| ||      |    |:   :|:|
Db        109 CAPIKPPKSARSVRAQRHTDMPKAQK----EVH----LKNTSRGNT 146


Search completed: December 12, 2003, 16:38:17
Job time : 7.68976 secs
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